

ORCHIDACEAE NOVAE MALAYENSES XIV.

Auctore

J. J. SMITH.

Habenaria paradiseoides J. J. S. n.sp.

Tubera ut videtur nulla. *Caulis* brevissimus. *Folia* radicalia 6—8, erecto-patentia, linearia, sensim angustata, canaliculato-subacuminata, apiculata, costa media dorso carinata, cum vagina brevi c. 4—7.25 cm longa, sicco 0.3—0.5 cm lata. *Inflorescentia* erecta, laxe pluriflora, pedunculo c. 12.5—17.5 cm longo, vaginulis numerosis (7—10) inferioribus foliaceis superioribus sensim decrescentibus et in bracteas vergentibus donato, rachide c. 3—5 cm longa. *Bracteae* adpressae, e basi valde dilatata longe canaliculato-subulato-acuminatae, c. 0.7—0.8 cm longae, 0.4 cm latae, parte angusta 0.3—0.375 cm longa. *Flores* ad c. 12, erecto-patentes, macerati c. 1.85 cm longi. *Sepalum dorsale* erectum, ovali-ovatum, obtusum, concavum, 3nervium, costa media dorso prominula, c. 0.38 cm longum, 0.27 cm latum. *Sepala lateral*a reflexa, recurva, convexa, oblique ovalia, obtusa, 3nervia, nervis intus sulcatis dorso praesertim intermedio prominentibus, c. 0.44 cm longa, bene 0.3 cm lata. *Petala* sepalo dorsali non agglutinata, erecta, oblique oblonga, vix falcatula, apicem versus paululum angustata, obtusa, apice irregulariter suberenulata, 2nervia, c. 0.4 cm longa, 0.15 cm lata. *Labellum* sessile, calcaratum, fere usque basin 3partitum; lamina explanata, c. 0.55 cm longa, 1.4 cm lata, laciniis lateralibus intermedia conspicue majoribus, patentissimis, concavis, incurvulis, falcato-recurvis, oblique lanceolatis, $\frac{1}{3}$ apicali in lacinulas 2—3 inaequales fissis, margine postice irregulariter marginatis, basi leviter contractis, 3—4 nerviis, c. 0.75 cm longis, 0.22—0.4 cm basi fere 0.1 cm latis, lacinulis anticis lineari-filiformibus serpentinis c. 0.3 cm longis, lacinulis posticis aequilongis vel paulo brevioribus oblique triangulis plus minusve sensim angustatis vel abrupte subulato-contractis, lacinia intermedia lineari, dimidio inferiore basin versus sensim paulum dilatata, apice brevissime conduplicato-apiculata, 3nervia, c. 0.44 cm longa, basi 0.1 cm lata; calcar deorsum spectans, elongatum, leviter sigmoideum, leviter clavatum, obtusum, inferne ovario adpressum, apice recurvulum, ut videtur lateraliter compressum, c. 1.45 cm longum. *Gynostemium* brevissimum, cum ovario angulum obtusum faciens, dorso convexum, c. 0.2 cm longum, auriculis in utraque gynostemii parte erectis, triangulis, tenuiusculis, everrucosis. *Anthera* erecta, bipartita, thecis approximatis, lateraliter compressis, fissura longitudinali dehiscentibus, canalibus porrectis, vix incurvulis, brevibus, latis, crassis, subtus convexis, oblique truncatis. *Stigmata* canalibus subaequilongis, porrecta, apice decurva, convexa. *Ovarium* alte 6sulcatum, apice leviter

contractum, etortum, c. 0.975 cm longum; pedicellus tenuior, tortus, 0.3—0.35 cm longus.

SUMATRA. Djambi: mouth of Soengai Garing, 140 m, between stones (O. POSTHUMUS n. 608, 25 July 1925; "flowers white").

A very interesting small species of which I know no near allies. The shape of the lateral laciniae of the lip has induced me to give the above specific name.

Description from herbarium.

Habenaria (sect. *Salaccenses*) **auriculiloba** J. J. S. n.sp.

Caulis erectus, absque inflorescentia c. 62 cm longus, parte inferiore 36—38 cm longa vaginis tubulosis obtusis ad 3 cm longis tectus, parte superiore laxe foliatus. *Folia* c. 6—7, elliptica ad oblongo-elliptica, breviuscule acuminata, obtusiuscula cum mucrone longo, basi breviter petiolato-contracta, superiora sessilia, c. 7nervia, transverse venosa, sicco membranacea, intermedia maxima 12—14.25 cm longa, 4.8—5 cm lata; vaginae tubulosae. *Inflorescentia* erecta, laxe pluriflora, pedunculo 6.5—8 cm longo, nonnullis vaginulis subadpressis ovato-lanceolatis longe angustatis acutis mucronatis donato, rachide c. 12 cm longa. *Bractae* adpressae, ovato-lanceolatae, acutae, concavae, glabrae, 3nerviae, c. 2.2 cm longae, 0.66 cm latae. *Flores* c. 14—15, quaquaversi, patentes, nutantes, deorsum spectantes, c. 2.6 cm longi. *Sepalum intermedium* ovato-oblongum, obtusum, dorso infra apicem appendice filiformi obtusangule reversa instructum, concavum, nervis 3 dorso prominentibus, c. 0.96 cm longum, 0.44 cm latum, appendice 0.275 cm longa. *Sepala lateral*ia reflexa, obliqua, late semiovata, obtusa, dorso infra apicem appendice filiformi recta obtusangule reversa instructa, leviter convexa, nervis 3 dorso prominentibus, c. 1.1 cm longa, basi 0.36 cm, supra basin 0.56 cm lata, appendice 0.5 cm longa. *Petala* libera, non agglutinata, sepalo intermedio parallela, simplices, oblique linearia, inferne falcata, basi antice dilata, obtusa, convexa, 2nervia, c. 0.975 cm longa, basi 0.25 cm, medio 0.08 cm lata. *Labellum* calcaratum; lamina cum ovario angulum rectum faciens, fere recta, inconspicue triloba, 3nervia, carnosula, c. 1.23 cm longa, ad lobos laterales 0.325 cm lata; lobi laterales basilares, abbreviatae, patentissimi, oblique rotundati, postice paululum decurrentes, auriculiformes, c. 0.06 cm longi, 0.15 cm lati; lacinia intermedia apicem versus leviter undata, linearis, obtusa, convexa, subtus canaliculata, fere 1.1 cm longa, basi 0.18 cm lata; calcar basi ovario parallelum, supra basin paulo ampliata in eurvum, lacinia intermedia parallelum et paulo longius, lateraliter compressum, superne antice clavato-dilatatum, apice brevissime contractum, obtusum, 1.57 cm longum, superne 0.26 cm altum. *Gynostemium* apicem ovarii fere continuum, 0.5 cm longum, auriculis oblique clavatis, verrucosis. *Anthera* dorso convexa, thecis clavatis, basi divergentibus, canalibus porrectis. *Rostelli* lobus intermedius anguste triangulus, acutiusculus, altus, medium antherae superans, laciniae laterales porrectae, canales aequantes, elongatae, angustae, lineares, obtusae. *Stigmata* deflexa, labello parallela, elongata, lineari-oblonga, obtusa, convexa, 0.3 cm longa. *Ovarium* valde cur-

vatum obtuse trigonum, late 6sulcatum, apice paulum in rostrum attenuatum, cum pedicello inexplanatum, c. 2.9 cm longum, ovario c. 2 cm longo, rostro 0.4 cm longo, pedicello torto c. 1.1 cm longo.

SUMATRA. Djambi: Goenoeng Kerintji, 2000 m (A. FREY-WYSSLING n.5, 1931).

Among the species of the section *Salaccenses* this is at once recognizable by the very short side lobes of the lip.

Description from herbarium and flowers preserved in alcohol.

Coelogyne (sect. Longifoliae) **contractipetala** J.J.S. n.sp.

Rhizoma repens, validum, teres, radicibus crassis, vaginis brevibus tubulosis obtusis. *Pseudobulbi* c. 2.5—4 cm dissiti, cum rhizomate angulum acutum facientes, sicco elongato-fusiformes, c. 6.5—7.5 cm long, 2folii, vaginis imbricantibus superne accrescentibus inferioribus exceptis acuminatis sparse atrofusce punctatis ad 5—6.25 cm longis ad basin. *Folia* anguste lanceolata, acuta, basi breviter petiolato-angustata, nervis 5 sicco subtus prominentibus, sicco papyracea, tota c. 12.5—22.5 cm longa, 1.75—2.75 cm lata, petiole canaliculato, c. 1.25—3.25 cm longo. *Inflorescentia* foliis immaturis synantha, diu florens, erecta, laxe multiflora, pedunculo validiusculo, c. 12.75—26 cm longo, rachide serpentina, 33 cm vel plus longa, internodiis c. 0.75—1 cm longis. *Bractee* apicem rachidis includentes, caducae, lanceolatae, c. 2—3.75 cm longae. *Flores* parvuli, intervallis singulatim expansi, c. 1.5 cm lati. *Sepalum dorsale* cum ovario angulum obtusum faciens, supra basin incurvum, subhorizontale, oblongo-ovatum, apicem versus angustatum, breviter acutum, concavum, 7nervium, c. 1.35 cm longum, bene 0.6 cm latum. *Sepala lateralalia* divergentia, oblique ovato-lanceolata, acuta, obtusangule concava, costa media dorso obtuse prominente, c. 6nervia, fere 1.4 cm longa, 0.5 cm lata. *Petala* e basi lanceolato-dilatata lineari-contracta, leviter convexa, 3nervia, nervis exterioribus brevibus, c. 1.1 cm longa, parte dilatata c. 0.45 cm longa, c. 16 cm lata, superne 0.07 cm lata. *Labellum* supra basin sigmoideam manifeste recurvum, 3lobum, costis 3 parallelis simplicibus rectis glabris basi inconspicuis, costa intermedia in flexu inter lobos laterales terminante, exterioribus productis et discum lobi intermedi limitantibus, explanatum fere 1.1 cm, usque ad apicem loborum lateralium 0.33 cm longum, ad lobos laterales 0.775 cm latum; lobi laterales basiales, erecti, rotundati, convexi; lobus intermedius rectus, oblongus, subtus concavus, dimidio inferiore paulo angustior cum marginibus rectis parallelis, dimidio superiore marginibus curvatis ovalis, apice breviter acute triangulo-productus, marginibus antice obtusangule incurvis, c. 0.76 cm longus, ungue 0.35 cm, superne 0.4 cm latus. *Gynostemium* tenuiusculum, superne leviter incrassatum, medio obtusangule incurvum, dorso angulatum, sectione transversa triangulum, apice anguste carnosulo-alatum, ala cum apice gynostemii angulum obtusum faciente rotundata retusa repandula, c. 0.55 cm longum, clinandrio conspicuo, concavo, pede distincto, cum gynostemio et ovario angulum subrectum faciente, gynostemio latiore, quadrangulo, carnosulo, intus incrassato 3callosoque. *Anthera* cucul-

lata, a dorso compressa, transversa, apice breviter obtusissime producta, basi connectivi gibbosa, postice canaliculata, antice costula longitudinali instructa, c. 0.125 cm lata. *Pollinia* 4, inaequalia, obovata, intus plana, extus convexa. *Rostellum* magnum, recurvum (an semper?), triangulum; acutiusculum, cum costula longitudinali. *Stigma* concavum, subquadrangulum, praesertim marginē inferiorem elevatum recurvumque. *Ovarium* triquetrum, 3costatum, costis sulcis limitatis, c. 0.25 cm longum; pedicellus tenuis, 0.75 cm longus.

SUMATRA: Djambi: Kerintji Peak, 1200 m, epiphytical in forest (H. A. B. BÜNNEMEIJER n.8608, March 1920; "flowers light brown").

Allied to *C. modesta* J.J.S. and especially to *C. longifolia* LINDL., but differing from this species in the much smaller flowers and the distinct side lobes of the lip.

Description from herbarium and flowers preserved in alcohol.

Coelogyne (sect. *Longifoliae*) **Steenisii** J.J.S. n.sp.

Rhizoma validiusculum, vaginis sub pseudobulbis accrescentibus acutis ad c. 5.5—11.5 cm longis tectum, radicibus crassiusculis, dense papillois. *Pseudobulbi* approximati, elongati, basin versus incrassati, sicco c. 5—11 cm longi, 2folii. *Folia* anguste lanceolata, longius acute acuminata, tenuiter mucronato-acuminata, basi sensim in petiolum angustata, nervis 5—7 sicco dorso prominentibus, tenuiter coriacea, c. 19—25 cm longa, 2.8—3 cm lata; petiolus canaliculatus, c. 2—5.5 cm longus. *Inflorescentia* foliis novellis synantha, diu flores gignens, pedunculo compresso, c. 12.5—25 cm longo, rachide serpentino-flexuosa, 12.5 cm superante, internodiis floriferis sterilibus bracteis amplexantes persistentes gerentibus intermixtis, c. 1—1.3 cm longis, facie florem versus spectante applanatis. *Bractee* fertiles caducae, initio apicem inflorescentiae includentes, c. 2.4 cm longae. *Flöres* intervallis florentes. *Sepalum* dorsule oblongo-ovatum, apicem versus sensim angustatum, subobtusum, longius apiculatum, angulato-concavum, lateribus intus convexis dorso leviter concavis, costa media dorso prominula, 7nervium, c. 2.35 cm longum, fere 0.8 cm latum. *Sepala* lateralialia oblique ovato-lanceolata, apicem versus sensim angustata, subacuta, longius mucronata, basi concava, in utraque costae mediae parte intus convexa, dorso carinata, 7nervia, c. 2.3 cm longa, 0.65 cm lata. *Petala* e basi oblongo-dilatata linearia, brevissime apiculato-acuminata; dorso longitudinaliter sulcata, 3nervia, bene 2 cm longa, medio 0.1 cm lata, parte dilatata c. 0.45 cm longa, 0.2 cm lata. *Labellum* arcuatum, subsigmoidum, gynostemium longe superans, 3lobum, basi transverse saccato-concavum et utrinque plica transversa instructum, subtus longitudinaliter sulcatum, c. 2 cm longum; explanatum ambitu oblongo-ovale, 2.2 cm, usque ad apicem loborum lateralium 1.2 cm longum, 1.2 cm latum, costis 2 conspicuis e basi tenui sensim elevatis infra medium lobi intermedii abrupte in lamellam erectam irregulariter rotundatam dilatatis deinde ad marginem disci lobi intermedii evanescentibus, costa intermedia inconspicua longe infra basin lobi intermedii terminante, in utraque parte costae mediae supra basin concavam costula paulo

longiore in dentem terminante et ramulis valde obliquis cum costis exterioribus conjuncta addita, praeterea supra basin utrinque costula brevissima etiam cum costis conspicuis conjuncta; lobi laterales gynostemium superantes, erecti, apice libero recurculi, convexi, triangulo-semiovalis, obtusi, fere 0.4 cm longi et lati; lobus intermedius conspicuus, marginibus praesertim superne valde recurvis convexis nervis insculptis rugulosis sulcis a disco triangulo convexo praesertim superne ruguloso costula longitudinali instructo separatis, e basi breviter unguiculato-contracta ovato-orbicularis, obtusissimus, 1.2 cm longus, ungue c. 0.15 cm longo 0.5 cm lato, lamina 1.1 cm lata. *Gynostemium* vix curvulum, dorso convexum, subtus concavum, e basi contracta aequaliter alatum, apice breviter angustatum recurvulum obtusum irregulariter marginatum, totum 1.2 cm longum, basi contracta fere 0.4 cm longa 0.175 cm latum, ceterum 0.4 cm latum. *Anthera* cucullata, ambitu breviter ovato-triangulari, apice leviter contracta, obtusa, retusa, basi gibbosa, 0.25 cm lata. *Rostellum* latum, convexum cum costula longitudinali. *Ovarium* obconicum, trigonum, sexangulatum, c. 0.55 cm longum; pedicellus teres, 0.95 cm longus, cum ovario plus minusve sigmoideus.

SUMATRA. Palembang: Ranau, summit of Goenoeng Pakiwang, 1600 m, epiphytical in moss-grown forest (C. G. J. VAN STEENIS n. 3886, 9 November 1929; "flowers pale salmon-coloured").

A very distinct species. It is not quite certain whether the sterile bracts are always present in the inflorescence.

Description from herbarium and flowers preserved in alcohol.

Dendrochilum (sect. Eudendrochilum) **Devoogdii** J.J.S. n.sp.

Rhizoma elongatum, verosimiliter patens vel dependens, ramosum, teres, e nodis radicans, initio vaginatum, parte adest 25 cm longa, internodiis 0.5–2.7 cm longis intermediis longissimis. *Pseudobulbi* c. 3.5–9.5 cm distantes, cum rhizomate angulum acutum facientes, elongati, c. 3–4.5 cm longi. *Folium* oblongo-ellipticum, brevissime obtuse acuminatum, basi subabrupte in petiolum acuminatum, nervis c. 9 sicco subtus et etiam supra tenuiter prominentibus, pluribus nervis minoribus intermixtis, sicco papyraceum, c. 9.5–12.5 cm longum, 3.7–4.4 cm latum; petiolus canaliculatus, c. 0.8–1 cm longus. *Inflorescentiae* e pseudobulbis rudimentariis, ut videtur solitariae, elongatae, satis longae, laxae multiflorae, basi vaginulis tectae, pedunculo puberulo, c. 1.5 cm longo, rachide tenui, subalato-quadrangula, sparse grossius puberula, internodiis c. 0.2 cm longis. *Bracteae* alternatim bifariae, persistentes, patentissimae, pedicello adpressae, ovario pedicellato multo breviores, valde concavae, abbreviato-ovatae, brevissime acuminatae, acutae, inerviae, c. 0.1 cm longae, 0.125 cm latae. *Flores* patentissimi, parvi, macerati c. 0.3 cm longi, sepalis petalisque incurvis. *Sepalum dorsale* lanceolatum, superne angustatum, obtusiusculum, minutissime apiculatum, marginibus recurvulis, inervium, costa dorso prominente, bene 0.2 cm longum, 0.06 cm latum. *Sepala lateralia* oblique lanceolata, vix falcata, apicem versus sensim angustata, breviter acuta, subapiculata, inervia, costa

dorso obtuse prominente, fere 0.2 cm longa, 0.06—0.075 cm lata. *Petala* oblique lanceolato-spathulata, apice breviter triangulo-contracta, Inervia, fere 0.2 cm longa, fere 0.05 cm lata. *Labellum* supra basin recurvum, oblongum, subtrilobum, 3nervium, basi incrassata costis 2 brevibus donatum, c. 0.13 cm longum, lobis lateralibus subobsoletis, hypochylium quadratum utrinque erosulum bene 0.05 cm longum 0.06 cm latum formantibus, lobo intermedio subquadrangulo fere quinquangulare, apicem versus inconspicue dilatato, apice lato brevissime apiculato, c. 0.075 cm longo, basi 0.05 cm, apice 0.075 cm lato. *Gynostemium* curvatum, dorso versus apicem costula longitudinali obtusa instructum, c. 0.1 cm longum, alis lateralibus fere e medio, inexplanatis alam apicalem fere aequantibus, explanatis brevioribus, lineari-subulatis, acutis, ala apicali incurva, subtus concava, oblonga, apice leviter angustata, truncato-obtusa, pede brevissimo, truncato. *Anthera* cucullata, 4lobulata, apice in rostrum producta, connectivo gibboso, bene 0.025 cm lata. *Ovarium* pedicellatum c. 0.1 cm longum.

SUMATRA. Bengkoeloe: way Liwa-Kroeï, on a wall of a rock, 600 m (C. N. A. DE VOGD n. 106, 24 February 1928; "flowers yellow").

Allied to *D. micranthum* SCHLTR. from Borneo which has also broad leaves, but differing in the much longer racemes, the erose lower half of the lip provided with two much shorter ridges, the entire terminal wing of the column. Moreover SCHLECHTER does not mention the pubescence of the rachis.

Description from a small dried portion of the plant.

Dendrochilum (sect. *Platyclinis*) **dolichobrachium** SCHLTR. in ENGL. Bot. Jahrb. XIV, Beibl. Nr. 104 (1911), 11. — *D. quinquelobum* AMES, Orch. VI (1920), 63, t. 82, II. — *Platyclinis dolichobrachia* SCHLTR. in Bull. Herb. BOISS. 2e sér. VI (1906) 301.

I have no doubt that *D. quinquelobum* AMES belongs here.

Dendrochilum (sect. *Platyclinis*) **ophiopogonoides** J. J. S. in Bull. Jard. Bot. Buit. 3e sér. V (1922), 45; Suppl. II (1930), t. 16, II.

var. **kerintjiense** J. J. S. n. var.

Pseudobulbi c. 3.5—5.75 cm longi. *Folium* apice saepeque etiam fere in medio contractum, brevissime acutum conduplicatumque, c. 9—21 cm longum, 0.375—0.575 cm latum. *Flores* parvi, sepalis 0.325—0.35 cm longis, 0.1—0.12 cm latis. *Labellum* explanatum 0.26 cm longum, lobis lateralibus brevibus, lobo intermedio brevi, lato, suborbiculari-rhombeo, brevissime acuminato, 0.15 cm longo, 0.17 cm lato. *Gynostemii alae* laterales apicem vix superantes, oblongo-lineares, falcatae, acutae, ala apicali quadrangula, apice excisa pauceque crenata vel bidentata.

SUMATRA. Djambi: Goenoeng Kerintji, 1800—2500 m, epiphytcal in forest (H. A. B. BÜNNEMEIJER nrs. 9171, 9301, 9716 and 10123, April-May 1920; "flowers light green or nearly white").

It appears that the local varieties of this species are rather constant.

The var. *kerintjiense* differs from both the type and the var. *merapiense* in the smaller flowers, very short side lobes and midlobe of the lip and the more or less retuse or bidentate apical wing of the column.

Microstylis dempoensis J. J. S. in Bull. Jard. Bot. Buit. 3e sér., Suppl. II (1930), t. 23, V.

Unfortunately the sketch of this was given for reproduction before the study of the plant was finished. Afterwards it turned out that it closely resembles *M. slamatensis* J. J. S. from Java. Both species are only known from specimens cultivated in the Buitenzorg Gardens and it is not excluded that the labels have been interchanged. So *M. dempoensis* indeed may be *M. slamatensis*.

***Microstylis* (sect. *Crepidium*) *kabensis* J. J. S. n.sp.**

Caulis elongatus, basi decumbens et radicans, multifolius, c. 20 cm longus, parte foliata c. 12.5 cm longa. *Folia* c. 11, oblique oblonga, acuminata, acuta, basi valde obliqua, leviter undulata, nervis 3 majoribus dorso prominentibus pluribusque tenuioribus, sicco membranacea, c. 5.5—8 cm longa, 2.1—2.6 cm lata; petiolus cum vagina tubulosa 3.2—3.6 cm longus. *Inflorescentia* multiflora, diu flores gignens, pedunculo anguste alato, c. 7 cm longo, rachide pedunculo simili, c. 11 cm longa. *Bractee* reflexae, lineari-subulatae, sicco c. 0.35 cm longae. *Flores* parvi. *Sepalum dorsale* deorsum spectans, oblongum, obtusum, convexum, 3nervium, c. 0.275 cm longum, bene 0.1 cm latum. *Sepala lateral*ia divergentia, oblique ovata, obtusa, 3nervia, convexa, c. 0.23 cm longa, 0.15 cm lata. *Petala* oblongo-linearia, obtusa, basi paululum angustata, convexa, 1nervia, c. 0.25 cm longa, 0.07 cm lata. *Labellum* hippocrepidiforme, ambitu quinquangulare, explanatum totum c. 0.4 cm, a loco insertionis 0.225 cm longum, fere 0.3 cm latum, fovea longitudinali, oblonga, excavata, dorso convexa, incrassatione transversa curvata macerata longitudinaliter paucicostulata anteposita, lobo intermedio conspicuo, praesertim margine leviter incurvulo, semielliptico, apice in formam amphorae nasi breviter angustequae contracto recurvoque, marginibus erectis apice supra viso brevissime spurie bidentato, fere 0.1 cm longo, bene 0.15 cm lato, dentibus c. 3—4 lobo intermedio bene brevioribus extrorsum decrescentibus utrinque, dentibus interioribus subulatis subfalcatis, ceteris divergentibus triangulis acutis, exterioribus brevissimis obtusis, auriculis remotis, e basi dilatata oblique anguste triangulis, obtusis, c. 0.15 cm longis, supra basin bene 0.05 cm latis. *Gynostemium* e basi breviter contracta cuneato-quadrangulo-dilatatum, dorso convexum, c. 0.12 cm longum, apice fere 0.1 cm latum, clinandrio obtusangule incurvo, excavato, auriculis divergentibus, verticalibus, oblique oblongis, obtusis. *Anthera* plane cucullata, transverse quinquangulati-reniformis, basi bilobula, apice truncato-rotundata, bene 0.05 cm lata. *Ovarium* 6costatum, fere 0.2 cm longum, pedicello 0.07 cm longo.

SUMATRA. Bengkoeloe: Goenoeng Kaba, 1300 m, terrestrial in forest (C. N. A. DE VOGD n. 507, 26 November 1929; "flowers purple").

The principal character of this plant is the tip of the lip being recurved

in the form of the spout of a milk jug, thus appearing shortly bidentate by the erect margins of it.

In the genus *Microstylis* it is of importance to note exactly the colour of the flowers and also of the leaves.

Description from herbarium.

***Microstylis* (sect. *Crepidium*) *ranauensis* J.J.S. n.sp.**

Caulis elongatus, multifolius, basi radicans, post florescentiam a parte superiore ramulum emittens, c. 13—19 cm longus, innovationibus c. 9.5 cm longis, c. 8-foliis. *Folia* oblique oblonga vel elliptico-oblonga, acute acuminata, basi obliqua, dimidio longiore obtusa, dimidio breviora acuta, utrinque breviter in petiolum acuminata, nervis 4 majoribus subtus prominentibus, sicco membranacea, c. 5.75—9.25 cm longa, 2.3—3.4 cm lata; petiolus canaliculatus, cum vagina tubulosa 3—1.2 cm longus. *Inflorescentia* dense multiflora, din flores gignens, pedunculo alato-angulato, c. 5—5.5 cm longo, vaginulis bracteiformibus raris donato, rachide 20 cm superante. *Bracteae* reflexae, lineari-subulatae, sicco c. 0.75 cm longae. *Flores* c. 0.45 cm lati, 0.7 cm longi, sepalis petalisque recurvulis, valde convexis. *Sepalum dorsale* deorsum spectans, oblongo-ovale, obtusum, 3-nerviū, c. 0.37 cm longum, 0.2 cm latum. *Sepala lateralia* oblique ovalia, obtusa, intus supernè concava praesertim in floribus novellis, 3-nervia, c. 0.36 cm longa, 0.26 cm lata. *Petala* anguste oblongo-subspathulata, obtusa, retusa, $\frac{2}{5}$ partibus inferioribus leviter contracta, 1-nervia, c. 0.325 cm longa, bene 0.1 cm lata. *Labellum* hippocrepidiforme, ambitu quinquangulare, apice incurvum, explanatum totum 0.65 cm, a loco insertionis 0.44 cm longum, 0.56 cm latum, fovea longitudinali, oblonga, concava, dorso convexa, marginibus incrassata, lobo intermedio conspicuo, incurvo, triangulo, obtuso, altius obtuse bilobulo, concavo, 0.23 cm longo, bene 0.2 cm lato, dentibus subulatis exterius decrescentibus omnibus lobo intermedio brevioribus utrinque, laciniis interioribus erecto-patentibus cum lobo intermedio angulum acutum facientibus, lineari-subulatis, c. 0.15—0.16 cm longis, ceteris bene brevioribus, falcato-recurvīs, lineari-subulatis, 2 exterioribus brevissimis, divaricatis, oblique triangulis, obtusis, auriculis reversis, oblique triangulis, obtusis, fere 0.2 cm longis, basi 0.17—0.18 cm latis. *Gynostemium* breve, a dorso compressum, dorso convexum, 0.125 cm longum, clinandrio cum parte inferiore angulum obtusum faciente, auriculis brevibus, divergentibus, suboblongis, obtusis. *Anthera* plane cucullata, transverse reniformi-quinquangularis, basi breviter rotundato-bilobula, apice obtusissima, 0.07 cm lata. *Ovarium* pedicellatum 6 alato-angulatum, obtusangule curvatum, 0.5 cm longum.

SUMATRA. Bēngkōelōe: Ranau, Goenoeng Seminoeng, north slope, 550 m (C. G. G. J. VAN STEENIS n. 3955, 12 November 1929; "stem suffused dark purple, flowers uniformly dark wine-red").

Near *M. kerintjiensis* J. J. S. but with a denser inflorescence, larger, differently coloured flowers, and the teeth of the lip much more unequal in length.

Description from herbarium.

Microstylis (sect. *Ophthalmodes*) **tripartita** J.J.S. n.sp.

Caules c. 8—15 cm longi, interdum inter folia radicales, parte foliata c. 6—9 cm longa. *Folia* c. 9, erecto-patentia, oblique linearia, falcata, apice sensim angustata, acuta, basi longe canaliculato-lineari-petiolato-angustata, c. 13nervia, costa media dorso carinata, cum vagina brevi tubulosa c. 14—21 cm longa, 0.8—1.1 cm lata. *Inflorescentia* diu flores gignens, multiflora, apice erecta, pedunculo c. 8.50—10 cm longo, plerumque vaginula bracteiformi singula donata, rachide angulata, 20 cm superante. *Bracteae* reflexae, subulatae, 1nerviae, ad c. 0.65 cm longae. *Flores* mediocres. *Sepalum dorsale* deorsum spectans, oblongum, obtusum, marginibus valde revolutis dorso contiguis, 3nervium, bene 0.4 cm longum, 0.17 cm latum. *Sepala lateralia* angulum obtusum facientia vel divaricata, oblique late ovalia, obtusa, margine recurva, 4nervia, 0.33 cm longa, 0.26 cm lata. *Petala* incurva, oblongo-lanceolata, obtusa, marginibus valde revolutis dorso contiguis, c. 2nervia, fere 0.4 cm longa, 0.14 cm lata. *Labellum* conspicuum, tripartitum, ambitu suborbiculare, lobis lateralibus postice sensim in auriculas exeuntibus, antice obtusis, cum auriculis lata transversa cuneato-oblongis, postice obtusis, lobo intermedio cum lobis lateralibus sinus satis angustos faciente, e basi late obverse aequilateraliter trapeziformi marginibus excavata subsemiorbiculari apice retuso breviter obtuse bilobulo, totum explanatum 0.6 cm, a loco insertionis fere 0.4 cm longum, lobis lateralibus cum auriculis 0.23—0.24 cm longis 0.475 cm latis, auriculis bene 0.2 cm longis, lobo intermedio 0.25 cm longo, basi 0.25 cm, medio 0.325 cm lato. *Gynostemium* brevissimum, a dorso compressum, versus apicem dilatatum, c. 0.1 cm longum et latum, auriculis brevibus, latis, obtusis. *Anthera* plane cucullata, reniformis, 0.06 cm lata. *Pollinia* 4, a dorso compressa, in corpuscula 2 oblique obovata conglutinata, 0.03 cm longa. *Rostrum* transversum, membranaceum, auriculis aequilongum, leviter retusum. *Ovarium* pedicellatum scostatum, 0.55—0.6 cm longum.

A.M.B.O.N.: way to Hoetoemoeri (A. RANT n. 390, 30 June 1929; "flowers brown-red").

A distinct species in the way of *M. carinatifolia* J.J.S. from New Guinea but with longer leaves, differently coloured flowers, narrower dorsal sepal and petals, the side lobes of the lip much narrower at the base, much larger midlobe only retuse at the apex.

Description from herbarium.

Oberonia (sect. *Acaules*) **singalangensis** SCHLIER. in FIEDDE Rep. IX (1911) 432.

var. **major** J.J.S. n.var.

Caules approximati, c. 3.5—4 cm longi, c. 4—8 folii, nonnullis vaginis acutis ad basin. *Folia* erecto-patentia, linearia, interdum leviter falcato-incurvula, apicem versus sensim angustata, acuta, inferne supra fissa, ad c. 11.5—18 cm longa, 0.725—0.675 cm lata. *Inflorescentia* elongata, subaxe multiflora, apice laxa, pedunculo c. 6—8 cm longo, nonnullis vaginulis bracteiformibus donato, rachide costata, glabra, 11—17 cm longa. *Bracteae* lanceolatae, acuminatae,

irregulariter marginatae, concavae, c. 0.37 cm longae, 0.12 cm latae. *Flores* irregulariter spiraliter vel plus minusve in verticillos dispositi, c. 0.375 cm longi, sepali reflexis. *Sepalum dorsale* ovatum, obtusum, leviter convexum, bene 0.2 cm longum, 0.1 cm latum. *Sepala lateralia* satis plana, suboblique ovata, acutiuscula, bene 0.2 cm longa, 0.13 cm lata. *Petala* patentia, divergentia, oblique subelliptica, obtusa, superne irregulariter marginata, leviter concava, 1nervia, 0.2 cm longa, 0.125 cm lata. *Labellum* cum ovario angulum obtusum faciens, concavum, ambitu pandurato-quadrangulum, medio fere constrictum, fovea conspicua transversa subovali subtus convexa ad basin, 3nervium, totum 0.225 cm longum, constrictione 0.125 cm latum, lobulis basilaribus divergentibus, incurvulis, oblique quadrangulis, oblique truncatis, margine exteriori inconspicue irregulariter marginatis, hypochylium ambitu aequilateraliter trapeziforme bene 0.1 cm longum 0.18 cm latum formantibus, epichylio ambitu obverse aequilateraliter trapeziformi, apice paululum inaequaliter late trilobulato, bene 0.1 cm longo, fere 0.2 cm lato; lobulis exterioribus repandulis subapiculatis vel obtusis, intermedio paulo brevioribus plus minusve triangulo, obtusissimo. *Gynostemium* minutum, a dorso compressum, basi contractum, dorso convexum, 0.06 cm longum, clinandrio concavo. *Anthera* plane cucullata, subquingulari-orbicularis, bene 0.025 cm lata. *Rostellum* triangulum, obtusum. *Stigma* transverse semilunatum. *Ovarium* 0.075 cm longum; pedicellus 0.26 cm longus.

SUMATRA. Djambi: Goenoeng Kerintji, 1900—2300 m (H. A. B. BÜNNEMEIJER nrs. 9598, 9734 and 10240, April—May 1920; "flowers light green or light orange-green").

Mr E. JACOBSON collected on Mt Singgalang an *Oberonia* (n. 1193), to which SCHLECHTER's description of *O. singalangensis* is wholly applicable with the only exception that the petals are blunt or rather truncate instead of subacute. Especially in *Oberonia*, where the petals are often erose, however, this character is of but little importance, and I have no doubt whatever that the plant in question is indeed the said species.

In 1920, when travelling for the Buitenzorg Herbarium, Mr BÜNNEMEIJER collected on Mt Kerintji abundant material of an *Oberonia*, which I take to be the same species, though the lip shows a rather great variability.

Amongst these plants a few at once attracted the attention by the much larger flowers. They differ from typical *O. singalangensis* also in the lateral apical lobules of the lip not or hardly surpassing the interjecting lobule in length, but even in this respect the other specimens from Mt Kerintji are variable. I have described them above as a var. *major*.

O. singalangensis is closely allied to *O. similis* LINDL. and *O. pallideflava* SCHLTR. but I think they can be looked upon as different species.

Description from herbarium and material preserved in alcohol.

Liparis (sect. Rhachidibulbon) **pilifera** J.J.S. n.sp.

Rhizoma validum, repens, radicans, simplex, teres, c. 7 cm longum, vaginis magnis mox fatiscentibus tectum, vaginis superioribus accrescentibus sensim

angustatis acutis carinatis ad c. 4.75—5 cm longis. *Folium* solitarium, magnum, subsessile, ovatum longe caudato-acuminatum, basi rotundata in in petiolum brevissimum contractum, nervis c. 11 majoribus curvatis pluribusque minoribus, sicco membranaceum, c. 12—15 cm longum, 6.5—9 latum. *Inflorescentia* erecta, elongata, laxa multiflora, quaquaversa, pedunculo basi in pseudobulbum sicco c. 1.2—1.5 cm longum incrassato, c. 6—8.25 cm longo, rachide costata, c. 16.5—19.5 cm longa. *Bractee* pulvinis insertae, patentes, e basi dilatata triangulae, acutae, concavae, 1nerviae, c. 0.43 cm longae, 0.32 cm latae, inferiores longe subulato-productae, ad c. 0.9 cm longae. *Flores* patentes, in sectione conspicui, c. 1.3—1.4 cm longi. *Sepalum dorsale* erectum, cum ovario angulum subrectum faciens, recurvum, marginibus valde recurvis fere tubulosum, lineare, explanatum triangulo-lanceolatum, apicem versus sensim angustatum, obtusiusculum, 3nervium, bene 0.9 cm longum, 0.25 cm latum. *Sepala lateral*ia porrecta, divergentia, angulum acutum facientia, oblique revoluta, explanata oblique oblongo-ovata, apicem versus angustata, acuta, falcata, 3nervia, c. 0.825 cm longa, 0.325 cm lata. *Petala* anguste linearia, convexa, 1nervia, c. 0.9 cm longa, 0.075 cm lata. *Labelium* porrectum, ima basi gynostemio adnatum et cum eo angulum acutum faciens, simplex, $\frac{1}{3}$ superiore subrectangule recurvum, inexplanatum c. 0.625 cm longum, callo parvulo quadrangulo antice truncato ad basin, canalicula conspicua longitudinali anguste lineari a callo usque ad apicem, costula brevi longitudinali utrinque supra basin in lateribus convexis, basi utrinque in auriculam parvam reversam oblique triangulam obtusam leviter convexam productum, 5nervium, explanatum obovatum, inferne leviter contractum, basi truncatum, antice rotundatum et in lacinulam parvam oblongam obtusam incurvulam abrupte productum, fere dimidio superiore utrinque in lacinias c. 8—9 horizontales oblongas in setam longam productas et paucas parvas dentiformes divisum, totum c. 0.75 cm longum, 0.475 cm, cum setis fere 0.8 cm latum. *Gynostemium* basi cum ovario angulum obtusum faciens, paulum infra medium valde incurvum, a dorso compressum, apice utrinque in lobulum parvum patentissimum horizontalem obtusum dilatatum, basi conspicue dilatatum incrassatumque, supra basin dentibus 2 porrectis triangulis instructum, inexpansum 0.33 cm longum, clinandrio concavo, transverso, pariete postico truncato, auriculis vix productis truncatis. *Anthera* plano-cucullata, transverse quadrangula, apice truncata, c. 0.08 cm lata. *Ovarium* anguste obconicum, 6costatum, c. 0.4 cm longum; pedicellus angulatus, c. 1.1 cm longus.

SUMATRA. East coast: Deli and Serdang, Dolok Sebak, northern slope, 1600 m, forest, terrestrial, a few plants together (J. A. LÖRZING n. 8327, 23 January 1921; colour not noted); same locality, east slope, Petani valley, shady bushwood on marshy places, 1300 m, locally rather abundant (J. A. LÖRZING n. 9440, 27 January 1923; "leaves light bluish green, flowers violet"). West coast: Loeboek Sikaping, Goenoeng Talakmau, northwest slope, 2000 m, ravine, riverbank (H. A. B. BÜNNEMEIJER n. 916, 29 May 1917; "flowers violet").

This plant is nearly related to *L. purpureo-viridis* BURKILL and, indeed, I have thought that it might be conspecific with it, as did Mr I. H. BURKILL and Mr R. E. HOLTUM, to whom I sent copies of my sketches. However, I felt not quite sure and the type material at Kew being very poor and the most mature buds having been spoiled in dissection. I wrote to Mr C. E. CARR, the enthusiastic young English Orchidologist, who most kindly sent on loan his drawings made after specimens which were collected in the original locality. It proved that the Sumatran plant is specifically distinct. *L. purpureo-viridis* differs in the lip being orbicular-elliptic in outline fringed along the whole length with linear-subulate, tapering laciniae, and provided with different callosities. In *L. pilifera* it is obovate in outline, fimbriate only in the upper portion with short obtuse lobules each provided with a long hair. In *L. Maingayi* RDL. the flowers are much smaller, the lip oblong-quadrangular in outline and at the anterior edges fimbriate with tapering laciniae.

Description from herbarium and materials preserved in alcohol.

Liparis (sect. Distichon) **arcuata** J.J.S. n.sp.

Rhizoma elongatum, repens, radicans, internodiis obliquis c. 0.8—0.9 cm longis, vaginis e basi tubulosa acuminatis, acutis, carinatis, internodiis longioribus antice brevioribus, sub pseudobulbis accrescentibus, erecto-patentibus, conduplicatis, tenuiter acuminatis, usque c. 4.5—6.25 cm longis. *Pseudobulbi* c. 11—14 cm distantes, parvuli, valde compressi, oblongi vel subovati, c. 1.5—1.8 cm longi, 0.8—0.9 cm lati, 1folii. *Folium* erectum, lanceolato-loriforme, acutum, basi angustatum conduplicatumque, articulatum, in utraque parte costae mediae dorso praesertim inferne carinatae nervis c. 3 majoribus pluribusque tenuioribus sicco utrinque obtuse prominentibus, coriaceo-papyraceum, c. 20—30 cm longum, 2.8—2.5 cm latum; vagina arcte conduplicata, prominenter nervosa, c. 2.5—2.8 cm longa, 0.65—0.75 cm lata. *Inflorescentia* folio multo brevior, apice dense multiflora, diu flores gignens, pedunculo ensiformi, versus apicem dilatato, c. 8.25—12 cm longo, apice usque c. 0.25—0.325 cm lato, apice arcuato, rachide subnutante, flexuosa, quadrangula, 5.5 cm superante, cum bracteis 0.9—1.2 cm lata, internodiis c. 0.15—0.175 cm longis, facie florem versus spectante excavatis, marginibus alato-acutis. *Bractee* alternatim bifariae, patentés, cymbiformi-conduplicatae, leviter incurvulae, acutae, acute carinatae, carina apice longe producta, sicco 0.55—0.75 cm longae. *Flores* singuli expansi, mediocres. *Sepalum dorsale* lanceolato-triangularum, apicem versus sensim angustatum, acutum, costa media praesertim versus apicem canaliculata dorso prominente, 3nervium, c. 0.8 cm longum, basi 0.225 cm latum. *Sepala lateralialia* sub labello porrecta, subovato-oblonga, apice angustata, acuta, conspicue lateraliter compresso-apiculata, basi lata, dorso carinata, 4—5nervia, c. 0.825 cm longa, 0.275 cm lata. *Petala* reflexa, oblique linearia, subapiculato-acuta, convexa, 1nervia, c. 0.86 cm longa, 0.05 cm lata. *Labellum* basi medio gynostemio adnatum, ante locum insertionis callo satis alto transverso semilunato donatum, explanatum ex ungue obverse aequilateraliter trapeziformi auriculis 2 parvis reversis triangulis obtusis donato

transverse ovale, apice breviter rotundato-bilobum cum lobulo brevioris parvo triangulo obtuso in sinu, margine repandulum, 5nervium, nervis exterioribus valde ramosis, c. 0.95 cm longum, ungue apice bene 0.4 cm lato, auriculis 0.05 cm longis, lamina 0.76 cm longa, 0.925 cm lata. *Gynostemium* satis longum, arcuatum, medio constrictum, basi dilatatum et a dorso compressum, apice longitudinaliter 3costatum, costa intermedia apice gibbosa, ala parva triangula obtusa in utraque stigmatis parte, c. 0.425 cm longum, basi fere 0.2 cm latum, clinandrio transverse ovali, concavo, lateribus rotundatis concavis gibbum apicalem superantibus. *Anthera* cucullata, orbicularis, fere 0.1 cm lata. *Rostellum* semiorbiculati-triangulum, concavum. *Ovarium* anguste triangulari, cum pedicello 0.95 cm longum (fecundatum).

SUMATRA. Bengkoeloe: Goenoeng Pesagi, east slope, 1600—2200 m, on ridge in moss-grown forest, common (C. G. J. VAN STEENIS n. 3641, 4 November 1929; "flowers green").

Amongst the few species of the section *Distichon* with a long column this is readily distinguishable by the relatively short inflorescences and the broad lip with a semilunar callus.

Description from herbarium.

Agrostophyllum (sect. *Eu-Agrostophyllum*) **cyathiforme** J.J.S. in Fl. Buit. VI (1905), 291; Fig. Atl. fig. CCXXIII.

var. **sumatranum** J.J.S. n. var.

Caules approximati, sectione transversa elliptici, c. 35 cm longi, multifolii, internodiis c. 2—2.3 cm longis, ultimis brevioribus. *Folia* patentia, basi semitorta, linearia, versus apicem leviter angustata, apice suboblique obtuse vel obtusiuscule triangulo-bidentata, cum mucrone fere aequilongo interposito, costa media supra sulcata subtus prominula, sicco rigide papyracea, c. 5.5—10 cm longa, 0.7—1 cm lata; vaginae internodia multo superantes, tubulosae, compressae, superne antice rumpentes et late nigro-marginatae. *Capitulum* nutans, semiglobosum, dense multiflorum, sicco 2.7 cm diam. *Inflorescentiae* parciales c. 3florae, pedunculis brevissimis nonnullis vaginulis amplectentibus basi tubulosis in bracteas vergentibus donatis. *Bracteae* adpressae, valde concavae, ovatae, obtusae, basi tubulosae, c. 0.6 cm longae. *Sepalum dorsale* subovatum, breviter acuminato-apiculatum, 3nervium, 0.425 cm longum, 0.22 cm latum. *Sepala lateralibus* oblique ovata, subacuta, apiculata, 3nervia, dorso carinata, 0.46 cm longa, 0.27 cm lata. *Petala* sublinearia, basi apiceque dilatata, obtusa, 3nervia, 0.4 cm longa, basi fere 0.1 cm, apice 0.075 cm, medio 0.06 cm lata. *Labellum* inexplatum supra visum ambitu obovatum, marginibus gynostemio adpressum, infra medium subtus valde constrictum, 0.47 cm longum, hypochylis saccato, postice rotundato, intus longitudinaliter 5costato, 0.17 cm longo, 0.18 cm lato, lamella transversa carnosa leviter late excisa in plica sita labelli marginem non attingente ab epichylis separato, epichylis valde cucullato-concavo, gynostemium longe superante, supra viso rotundato-quadrangulo, breviter acute acuminato, 0.3 cm longo et lato. *Gynostemium* curvum, a dorso compressum, latum,

supra convexum, subtus concavum et infra excavationem obtusangule incrasatum absque anthera 0.3 cm longum, 0.2 cm latum, clinandrio alte excavato, pariete postico producto truncato, auriculis triangulis obtusis. *Rostellum* late semiorbiculati-excisum. *Ovarium* 6sulcatum.

SUMATRA. Bengkoeloe: Boekit Barisan, Rimbo Pengadang (Exp. E. JACOBSON 1916, cult. in Hort. W. M. DOCTERS VAN LEEUWEN sub. n. 2415).

The variety, so far as can be judged from a single specimen, differs from the type especially in the much more constricted lip, the shape of the petals and the thickened portion of the column being shorter.

Description from a dried specimen.

Podochilus (sect. *Apista*) **mentawaiensis** J.J.S. n.sp.

Caules elongati, valde ramosi, repentes, radicanes, filiformes, internodiis c. 0.13—0.225 cm longis, radicibus caulibus crassioribus. *Folia* patentia, oblongo-elliptica, acuta, longe filiformi-apiculata, basi semitorta conduplicato-contracta, costa media supra sulcata subtus prominula, supra utrinque leviter convexa, 5nervia, c. 0.55—1 cm longa, 0.15—0.3 cm lata; vagina tubulosa. *Inflorescentiae* terminales et pseudoterminales, simplices ad fasciculato-ramosae, breviter pedunculatae, c. 2—4florae, pedunculo tenui, c. 0.2 cm longo, rachide flexuosa, tenui, c. 0.25—0.6 cm longa, internodiis c. 0.13—0.16 cm longis. *Bractee* basi reflexae, patentes, concavae, marginibus superne involutis subulatae, c. 0.1 cm longae. *Flores* c. 0.4 cm longi. *Sepalum dorsale* ovato-triangulum, apice contractum, obtusum, concavum, 1nervium, bene 0.15 cm longum, fere 0.125 cm latum. *Sepala lateral*ia lacinia oblique oblonga ad pedem gynostemii decurrentia, antice alte connata, mentum conspicuum cum ovario angulum acutum faciens ovarium pedicellatum superans calcariforme rectum dimidio superiore dorso vix convexo-inflatum obtusum c. 0.2 cm longum formantia, parte antica oblique ovato-triangulari, subacuminata, obtusiuscula, breviter apiculata, 1nervia, bene 0.15 cm, margine antico 0.36 cm longa, basi 0.25 cm metientia, parte antico 0.14 cm lata. *Petala* oblique subobovato-ovalia ad ovalia, obtusa, minute apiculata, 1nervia, c. 0.13 cm longa, 0.08 cm lata. *Labellum* ungue longo anguste lineari curvulo apici pedis gynostemii insertum, late cuneato-rhombeum, apice obtusangulum, 3nervium, appendice basilari reversa curvula unguem superante latius lineari apice paulo dilatato rotundato-exciso obtuse bilobula, totum 0.325 cm longum, lamina 0.24 cm longa supra medium bene 0.2 cm lata, appendice 0.08 cm longa apice 0.05 cm lata. *Gynostemium* breve, 0.14 cm longum, clinandrio conspicuo excavato, filamento subulato. *Anthera* cucullata, cordata, apicem versus angustata, obtusa, apiculata, 0.1 cm longa. *Rostellum* porrectum, triangulum, anguste subulato-bidentatum. *Pes gynostemii* cum ovario angulum acutum faciens, linearis, concavus, c. 0.2 cm, cum gynostemio fere 0.4 cm longus. *Ovarium* pedicellatum 0.16 cm longum. *Capsula* flore marcido coronata, fusiformis, sexangulata, rima singula longitudinali dehiscens, c. 0.3 cm longa; pedicellus fere 0.1 cm longus.

MENTAWAI ISLANDS. Poelau Siberoet: environs of Siberoet, forest (IBOET n. 14, 8 September 1924; "flowers white").

This is near *P. sciuroides* RCHB. f. but, I think, specifically distinct. It differs in the relatively longer mentum, broader lip widest above the middle, and the much longer, linear appendix.

Description from herbarium.

Appendicula (sect. Eu-Appendicula) **hexandra** J.J.S. n.comb. — *A. Koenigii* Hook. f. Fl.Br.Ind.VI (1890), 84; Ic.pl.XXII (1893), t.2149. — *Podochilus hexandrus* SCHLTR. in Mém.Herb. Boiss. no. 21 (1900), 27. — *Epidendrum hexandrum* KOEN. in RETZ. Obs. VI (1791), 45.

Caules numerosi dense fasciculati, simplices, tenues, c. 14 cm longi, internodiis 0.4—0.55 cm longis, radicibus papillosis vel pilosis. *Folia* basi semitorta, patentissima, lineari-lanceolata, apicem versus leviter angustata, breviter obtuse subinaequaliter bidentata cum apiculo subaequilongo interposito, sicco rigida, c. 1.2—1.8 cm longa, 0.25—0.3 cm lata; vaginae tubulosae, internodia superantes, apice truncatae. *Inflorescentiae* e nodis caulium, 2 vaginas perforantes, erectae, laxae adpressae, brevissimae, 1—3 florum, pedunculo c. 0.175 cm longo, nonnullis vaginulis tubulosis pedunculum aequantibus donato, rachide angulata, c. 0.075 cm longa. *Bractae* patentissimae ad reflexae, ovato-triangularae, acutae, concavae, c. 0.125 cm longae. *Flores* minimi, macerati c. 0.3 cm longi. *Sepalum dorsale* ovato-triangularum, subacutum, 1 nervium, fere 0.2 cm longum, 0.1 cm latum. *Sepala lateralibus* lacinia lata subrhombica ad pedem gynostemii decurrentia, marginibus anticis satis alte connata, mentum reversum cum ovario angulum acutum faciens saccatum rotundatum c. 0.1 cm longum formantia, parte antica oblique triangulari, subacuta, nervo 1 dorso prominulo, c. 0.17 cm longa, margine antico usque ad apicem menti 0.27 cm, basi 0.2 cm metientia. *Petala* oblique rhombica, obtusa, 1 nervia, 0.175 cm longa, fere 0.1 cm lata. *Labelllum* inferne pedi gynostemii tota longitudine saccato-adnatum, apice recurvum, 5 nervium, appendice hippocrepidiformi rotundata ungue labelli bene brevior et angustior, explanatum ambitu subovale, basi rotundatum, c. 0.275 cm longum, 0.175 cm latum, parte libera 0.125 cm longa, apice reflexo triangulo. *Gynostemium* brevissimum, cum ovario angulum obtusum faciens, dorso convexum, supra visum ovato-triangularum, 0.1 cm longum, clinandrio excavato. *Anthera* cucullata, cordata, apicem versus angustata, obtusa, connectivo longitudinali costiformi-increassato, fere 0.1 cm longa. *Pollinia* 6, anguste clavata. *Rostellum* porrectum, triangularum, breviuscule acute bidentatum. *Pes gynostemii* cum ovario angulum acutum faciens, leviter curvulus, oblongus, canaliculatus, 0.1 cm longus. *Ovarium* pedicellatum 6 sulcatum, c. 0.175 cm longum.

INDIA. (Herb. ROTTLE, 1779).

MENTAWAI ISLANDS. Poelau Siberoet: environs of Siberoet, epiphytically in forest (IBOET n. 268, 24 September 1924; "flowers white").

This is a very interesting find, the exact habitat of the plant being unknown.

hitherto. ROTTLE's specimen may be originary from the west coast of the Malay Peninsula or from the neighbouring islands.

Description from herbarium.

Appendicula (sect. Eu-Appendicula) **pilosa** J.J.S. in Ic. Bog. II (1903) 53, t. CX A.

var. **sumatrana** J.J.S. n.var.

Caules approximati, simplices, ad c. 18 cm longi, internodiis 0.425—0.5 cm longis. *Folia* patentissima, basi semitorta, ovato-oblonga, apice late aequaliter vel subinaequaliter leviter rotundato-biloba cum mucrone subaequilongo interposito, sicco nigrescentia rigidaque, majora c. 1.5—1.9 cm longa, 0.8 ad bene 1 cm lata, inferiora decrescentia; vaginae tubulosae, sicco prominenter nervosae. *Inflorescentiae* terminales et probabiliter etiam e nodis superioribus, deinde ramosae, brevissimae, dense pluriflorae. *Bractee* majusculae, recurvae, concavae, apice incurvae, sicco prominenter nervosae. *Flos* maceratus c. 0.7 cm longus. *Sepalum dorsale* cum ovario angulum obtusum faciens, concavum, late semiellipticum, obtusum, dorso sparse furfuraceo-punctatum, 3nervium, c. 0.375 cm longum, 0.38 cm latum. *Sepala lateralia* ad pedem gynostemii decurrentia, mentum conspicuum cum pede gynostemii angulum subrectum faciens conicum obtusum dorso obtusangule incurvum c. 0.3 cm longum formantia, marginibus anticis magnam partem libera, oblique triangula, obtusa, concava, dorso sparse furfuracea, 3nervia, costa media dorso incrassata, c. 0.425 cm longa, margine antico 0.575 cm, basi 0.53 cm metientia. *Petala* oblique subobovata, obtusissima, concava, 1nervia, c. 0.325 cm longa, 0.23 cm lata. *Labellum* inferne pedi gynostemii adnatum, erectum, circiter $\frac{2}{5}$ partibus superioribus subrectangule recurvum, apice rectangule sursum curvum, omnino concavum, extus longitudinaliter sulcatum, subtrilobum, 5nervium, c. 0.46 cm, expansum oblongum, bene 0.5 cm longum, 0.3 cm latum, ungue extus convexo cum canalicula alta longitudinali, appendice hippocrepidiformi concava ungui bene brevior et multo angustior, laminae marginibus (lobulis) lateralibus oblique erectis, latis, leviter rotundatis, concavis, callo conspicuo erecto alto lateraliter compresso angulato-rotundato antice in costulum crassam convexum apicem attingentem producto in medio, apice (lobulo intermedio) erecto, triangulo, acuto, concavo, carnosus, extus sulco longitudinali instructo, lamina explanata ambitu quinquangularem, 0.225 cm longa, fere 0.3 cm lata. *Gynostemium* cum ovario angulum obtusum faciens, usque ad rostellum apicem bene 0.2 cm longum, clinandrium magno concavo cum marginibus erectis ovato, auriculis brevibus dentiformibus. *Anthera* cucullata, cordata, leviter acuminata, subacuta, marginibus superne incurvis et utrinque infra apicem denticulum formantibus, basi 4lobulata, connectivo gibboso, c. 0.16 cm longa, 0.12 cm lata. *Pes gynostemii* cum ovario angulum rectum faciens, rectus, linearis, intus apice excepto papillosus. *Ovarium* pedicellatum crassiusculum, 6sulcatum, furfuraceum, 0.37 cm longum.

SUMATRA. Djambi: Soengai Lesing, 30 m, near water in hills (O. Posthumus n. 1004, October 1925; coll. SAIMOENDT n. 93).

Differing from typical *A. pilosa* J.J.S. in the narrower leaves, white flowers, the shape of the callus of the lip, the papillose column foot. Additional material may show that the plant is specifically distinct from *A. pilosa*.

Description from a dried specimen.

Appendicula (sect. *Chromatodesme*) **Jacobsonii** J.J.S. n.sp.

Caules elongati, ramosi, compressi, ensiformes, c. 30 cm longi, 0.25 cm lati, internodiis 0.45–0.6 cm longis. *Folia* patentia, basi semitorta, ovali-oblonga, subaequaliter bilobula cum mucrone brevior interposito, lobulis triangulis obtusis margine exteriore rotundatis, supra in utraque parte costae mediae sulcatae leviter convexa, papyracea, usque c. 1.8 cm longa, 0.8 cm lata, superiora decrescentia. *Inflorescentia* terminales et axillares, brevissimae, pauciflorae, cum floribus 1.1–1.3 cm longae, pedunculo nonnullis vaginulis bracteiformibus donato. *Bracteae* alternatim bifariae, imbricatae, conduplicatae, apice recurvulae, ovali-ovatae, obtusae, breviter bilobulae cum mucrone parvo, c. 0.8 cm longae, 0.55 cm latae. *Flores* c. 2–3, c. 0.7 cm longi, sepalis petalisque conniventibus apice recurvulis. *Sepalum* dorsale ovatum, subacutum cum apiculo conspicuo subulato lateraliter compresso acuto, concavum, 3nervium, c. 0.375 cm latum. *Sepala* lateralialia lacinia oblique subovali ad pedem gynostemii decurrentia, marginibus anticis longitudine c. 0.17 cm connata, mentum calcariforme reversum ovario adpressum subovale leviter a dorso compressum obtusum vel obsolete retusum ovario brevius 0.2 cm longum formantia, parte antica oblique oblongo-triangulari, apice breviter falcatule sursum curvula, subacuta cum apiculo conspicuo subulato falcatulo lateraliter compresso acuto, concava, 3nervia, costa media dorso prominente, c. 0.375 cm, margine antico 0.525 cm longa, 0.25 cm lata. *Petala* oblique oblongo-ovata, obtusa, obtuse subapiculata, apice minutissime erosula, 3nervia, bene 0.3 cm longa, bene 0.15 cm lata. *Labellum* pedi gynostemii insertum, gynostemio parallelum et multo longius spathulatum, leviter tortum, subtus longitudinaliter sulcatum, totum c. 0.7 cm longum, ungue cuneato, concavo, appendice conspicua, reversa, subrecta, unguem bene superante, marginibus apice excepto valde erectis canaliculata, obtusa, leviter retusa, cruribus antice prope margines decurrentibus, valde rotundato-lobiformi-dilatatis et ad basin laminae abrupte terminantibus, lamina medio canaliculata, lateribus convexa, cuneato-obreniformi, lobis sinu acuto separatis subangulato-rotundata, minute repandula, callo parvo infra sinum, c. 0.33 cm longa, fere 0.5 cm lata. *Gynostemium* brevissimum, dorso fere usque basin bipartitum, lobis oblique subquadrangulis, usque ad apicem rostellii 0.275 cm longum, clinandrio alte excavato. *Anthera* cordata, apicem versus angustata, c. 0.2 cm longa. *Pollinia* 6, elongata, oblique clavata, curvula, c. 0.15 cm longa, stipite fere usque basin in lacinias 2 divergentes lanceolatas partito, cum glandula lanceolata supra convexa 0.16 cm longo. *Rostellum* porrectum, elongatum, lineare, basi paululum dilatatum, subulato-bifidum. *Stigma* suborbiculare. *Pes gynostemii* reversus, ovario

adpressus, apice cucullato-incurvus, oblongus, marginibus erectis basi rotundatis valde canaliculatus, c. 0.23 cm longus. *Ovarium* trigonum, 6sulcatum, c. 0.3 cm longum.

SUMATRA. West coast: Loeboek Sikaping, Bondjol (W. GROENEVELDT, cult. in Hort. E. JACOBSON sub n. 1042; "bracts and ovary green, sepals and spur transparently somewhat yellowish green, petals more transparent, greenish yellow, lip and column yellowish white with a green hue, stigma light green, anther cream-yellow").

The nearest ally appears to be *A. babiensis* J.J.S. from which it differs i.a. in the longer internodes, much longer and broader leaves, a shorter mentum etc. Also the colour seems to be different. From *A. torta* Bl. it may be distinguished by the few-flowered inflorescences, differently coloured bracts and flowers, larger flowers with a relatively shorter mentum, large blade of the lip, much more narrowed petals, a much more strongly bent column foot.

Spathoglottis confusa J.J.S. n.sp. — *S. aurea* RCHB. f. (non LNDL.) in Gard.Chron. 3rd ser. IV (1888), 92, fig. 9; J.J.S. in Bull.Jard.Bot.Buit.Suppl.II (1930), t.44, II.

Pseudobulbi approximati, ovoideo-globosi, c. 2.7 cm alti et crassi, c. 3folii, vaginis pluribus valde longitudinaliter costatis initio atropurpureis excrescentibus persistentibus superioribus accrescentibus cincti, vagina superiore laminam parvam mox caducam gerente. *Folia* longe petiolata, erecta, graciliter recurva, lineari-lanceolata, longe angustissime acuminata, basi sensim in petiolum angustata, plicata, nervis conspicuis c. 11 dorso prominentibus nervis minoribus intermixtis, coriacea, viridia, folium summum maximum, c. 72 cm longum, 6 cm latum; petiolus canaliculatus, costatus, viridis, c. 28 cm longus, cum vagina articulatus; vaginae sese arete amplexantes, tubulosae, sectione transversa ellipticae, costatae, purpureae, superne plus minusve viridi-suffusae, ad c. 21 cm longae. *Inflorescentiae* e pseudobulbo, validae, erectae, densius multiflorae, diu flores gignentis, pedunculo tereti, glabro, c. 1.1 m longo, 0.5 cm diam., viridi, valde maculato-marmorato, sordide purpureo-suffuso, pluribus vaginulis tubulosis ad 2.5 cm longis donato, vaginulis inferioribus approximatis arete adpressis acutis, valde purpureo-suffusis, 6 superioribus remotis superne ventricosampliatitis obtusis viridibus in bracteas vergentibus, rachide breviuscula, subangulata, glabra, viridi, sordide purpureo-suffusa, internodiis c. 1.5 cm longis. *Bracteae* persistentes, valde cucullato-concavae, oblongae, obtusae, sordide virides, versus marginem pallidiores et semipellucidae, multinerviae; extus praesertim basi ad margines parce puberulae, explanatae c. 1.4 cm longae et latae. *Flores* quaquaversi, magni, pulchri, erecti, lutei, c. 6.7 cm lati, sepalis petalisque patentissimis. *Sepalum dorsale* elliptico-oblongum, obtusum, marginibus recurvulis, c. 3.7 cm longum, 1.65 cm latum. *Sepala lateral*ia oblique subovato-oblonga, obtusa, costa media dorso obtuse prominula, c. 3.5 cm longa, 1.7 cm lata. *Petala* e basi angusta obovato-elliptica, apice obtuso marginibus incurvis subcanaliculata, costa media dorso sulcata; c. 3.55 cm longa, 2.15 cm

lata. *Labellum* porrectum, 3lobum, carnosulum, subtus longitudinaliter sulcatum, c. 2.5 cm longum, explanatum ad lobos laterales 3 cm latum; lobi laterales, adscendentes, incurvi, oblique anguste oblongi, inferne marginibus subparallelis, apice paulum oblique dilatati, oblique rotundati, lutei, parte inferiore intus rubiginosi, basi maculati, c. 14 cm longi, 0.55 cm lati; lobus intermedius porrectus, rectus, hastatus, carnosulus, luteus, fascia longitudinali apicem haud attingente rubiginoso-punctata ornatus, basi callo conspicuo basi angusto in lobulos divergentes oblongos obtusos intus convexos extus parce longe pilosos alte bipartito luteo rubiginoso-punctato c. 0.6 cm lato donatus, fere 2.1 cm longus, ad lobulis basilaribus 1 cm latus, lobulis basilaribus parvis, patentissimis falcato-triangularibus obtusiusculis supra parce longe pilosis luteis, lobulo intermedio late lineari apice sensim dilatato apice satis abrupte in lobulum triangulum acutiusculum carnosum contracto marginibus infra-apicalibus incurvulis exceptis convexo subtus plano, medio bene 0.3 cm, apice 0.6 cm lato. *Gynostemium gracile*, curvatum, apicem versus sensim leviter alato-dilatatum, supra convexum, subtus concavum, luteum, basi pallidius, c. 1.9 cm longum, clinandrio alte excavato, apice late obtuso convexo. *Anthera* cucullata, ovata, obtusa, convexa, viridiflava. *Pollinia* 8, clavata, flava. *Rostellum* conspicuum, triangulum, obtusum. *Stigma* semiorbiculare. *Ovarium* 6sulcatum, 1.8 cm longum, flavo-viride; pedicellus quam ovarium minus viridis, 2.9 cm longus.

BORNEO. Western Division: Sintang, Goenoeng Kelam (H. HALLIER n. 406a, cult. in Hort. Bog.).

This is the species which was described and figured in the Gardeners' Chronicle l.c. under the name of *S. aurea* and unfortunately also by me l.c. *S. confusa*, however, differs from *S. aurea* in the much longer petioled, gracefully recurved leaves, larger, pure yellow flowers, relatively broader petals, and a broader midlobe. The allied *S. Kimballiana* Hook. f. differs in the very broad side lobes of the lip and *S. gracilis* Rolfe in the frontlobe being dilated into a broad apical limb.

Living specimens of this beautiful species were introduced in the Buitenzorg Gardens in the year 1894 by Dr H. HALLIER, who found it growing on steep rocks of Mt Kelam. It was only by means of a rifle that he succeeded in securing a few pieces. During several years it was in splendid condition in the said Gardens.

Description from cultivated specimens.

Eria ornata LNDL. Gen. et Sp. Orch. (1830), 60; etc.

var. ***inconspicua*** J.J.S. in Bull. Jard. Bot. Buit. 3e sér. I (1919), 105 (*nomen*).

Habitu typi sed minor. *Pseudobulbi* c. 2.5—3.5 cm distantes, oblique elliptici vel plus minusve rhombeï, compressi, c. 3.5—4.5 cm longi, 2.5—4 cm lati, 2—4folii. *Folia* recurva, lanceolata, valde oblique acuta, curvata, crasse carnosula, costa media supra sulcata subtus in foliis superioribus carinata, c. 16—26 cm longa, 2.3—5 cm lata. *Inflorescentiae* laxae multiflorae, pedunculo basi in pseudobulbum rudimentarium vaginulis alternatim bifariis imbricantibus con-

duplicatis obtusis ad c. 3 cm longis tectum incrassato, lanato-pubescenti c. 16.5 cm longo, pallide virescenti-fuscescenti, vaginula bracteiformi adpressa donato, rachide pedunculo simili, c. 12 cm longa. *Bractee* patentés, lanceolato-ovatae, basi medio concavae, ceterum convexae, parce pubescentes, ad c. 3 cm longae, 0.35—1 cm latae, armeniacae. *Flores* c. 16, c. 1.8 cm longi et lati, sepalis basi parallelis, atro-olivaceis, violaceo-suffusis, intus nitidis et parcius albo-sublanatis, dorso dense pallide fuscescenti-lanatis. *Sepalum dorsale* anguste triangulo-lanceolatum, subacuminatum, c. 1.425 cm longum, 0.35 cm latum. *Sepala lateralía* mentum breve rectum obtusum 0.45 cm longum facientia, erecta, divergentia, oblique lanceolato-triangula, leviter sigmoidea, c. 1.4 cm longa, basi 0.75 cm lata. *Petala* parallelá, anguste oblique lanceolata, tenuiter acuminata, acuta, intus convexa, utrinque parce lanato-puberula, alba, apice et dorso stria longitudinali atrorubra, c. 1.17 cm longa, 0.2 cm lata. *Labellum* elastice affixum, arcuatum, 3lobum, costis 2 tenuibus e basi purpureis in $\frac{1}{3}$ mediana labelli dilatatis albis purpureo-marginatis supra basin lobi intermedii acute terminantibus, costa tertia a basi lobi intermedii usque ad apicem producta ante apicem costarum exteriorum incrassata, basi flava ceterum purpurea pallide marginata, explanatum c. 1.35 cm, usque ad apicem loborum lateralium 0.73 cm longum; lobi laterales anguste erecti, hypochylum subovale 0.575 cm latum inter costas flavum formantes, antice in dentem brevem triangulum producti, nivei, purpureo-marginati; lobus intermedius recurvulus, valde undulatus, ambitu spathulato-rhombeus, acuminatus, acutus, ungue purpurascens cum stria purpurea intramarginali, 0.17 cm lato, lamina ovato-triangula, purpurea, 0.37 cm longa, 0.35 cm lata. *Gynostemium* album, 0.45 cm longum, auriculis late triangularibus. *Anthera* cucullata, ovato-quadrangula, apice tenuiter producta truncata retusa, connectivo incrassato. *Pes gynostemii* 0.5 cm longus. *Ovarium* pedicellatum sordide fuscescenti-lanatum, 3.1 cm longum.

SUMATRA. Atjeh: (cult. in Hort. Bog. II M. 101). West coast: Agam, Fort de Kock (H. A. B. BÜNNEMEIJER n. 4409, cult. in Hort. Bog. XII B, IX, 211).

This differs especially from the type in the smaller, much less intensively coloured bracts.

Description from a cultivated specimen.

Eria (sect. *Aeridostachya*) **robusta** LNDL. Gen. et Sp. Orch. (1830) 69; etc. var. **pilosipetala** J.J.S. n. var.

Differt a forma typica praecipue petalis plus minusve ciliatis vel etiam dorso pilosis.

SUMATRA. West coast: L Kota, Goenoeng Malintang, 2000 m (H. A. B. BÜNNEMEIJER nrs. 3894a and 4045, July 1918); Goenoeng Sago, 1700 m (H. A. B. BÜNNEMEIJER n. 4354, 8 August 1918); Loeboek Sikaping, Tanang Taloe, 1100 m (H. A. B. BÜNNEMEIJER n. 1091, 16 July 1917). Djambi: Goenoeng Kerintji, 2200 m (H. A. B. BÜNNEMEIJER n. 9434, 15 April 1920).

Eria (sect. *Urostachya*) **palmifolia** RIDL. in Journ.Fed.Mal.St.Mus. VIII. (1917), 99.

Caules approximati, carnosi, c. 13.5—45 cm longi, vaginati, vaginis magnis imbricantibus inferioribus obtusis superioribus acutis, parte superiore c. 2—7 cm longa flexuosa 4—7folii. *Folia* patentia, lineari-lanceolata, oblique acuta, basi angustata, superiora petiolato-angustata, nervis pluribus sieco suprâ subtusque prominentibus, summa longissima et angustissima, c. 12.5—31 cm longa, 1.75—3.2 cm lata; vaginae brevissimae. *Inflorescentiae* ad. c. 7, e nodis excavatis caulium partis superioris, breviter pedunculatae, subdense multiflorae, pubescentes, c. 11—20 cm longae. *Bractae* reflexae, oblongo-subovales, apice acutatae, subacutae, concavae, superne ciliatae, 3nerviae, c. 0.575 cm longae, 0.32 cm latae. *Flores* mediocres, bene 1 cm longi, sepalis dorso pilis brevibus valde ramosis stellato-pubescentibus. *Sepalum dorsale* cum ovario angulum obtusum faciens, ovato-ovale, obtusum, valde concavum, 3nervium, bene 0.6 cm longum, 0.4 cm latum. *Sepala lateralìa* ad pedem gynostemii decurrentia mentum conspicuum cum ovario angulum acutum faciens latum rectum apice antice visum rotundato-truncatum a latere visum rotundatum antice apertum c. 0.5 cm longum formantia, incurva, labellum amplexentia, oblique latissime ovata, obtusa, concava, 4nervia, c. 0.6 cm longa, 0.7 cm lata. *Petala* late oblique angulato-elliptica, obtusa, basi apiceque exceptis erosula, concava, 3nervia, c. 0.575 cm longa, 0.46 cm lata. *Labellum* erectum, 3nervium, explanatum totum c. 0.55 cm longum, lobis lateralibus basilaribus, minutis, a lobo medio sinibus obtusangulis sejunctis, lamella transversa horizontali apice truncata crenulato-repandula antice convexa postice concava connatis hypochylium humile ambitu transverse subovale apici pedis gynostemii adpressum et cum eò cavitatem faciens explanatum c. 0.13 cm longum 0.225 cm latum formantibus, lobo intermedio conspicuo, erecto, latissime spathulato, ungue quadrangulo-oblongo, apicem versus paulo dilatato, canaliculato, expanso fere 0.2 cm longo, basi 0.1 cm lato, lamina lateribus erecta, marginibus anticis apiceque recurvis quasi trilobula, latissime triangula ad transverse rhombea, angulis lateralibus apiceque plerumque obtusa interdum plus minusve acuta, margine antico irregulariter repandulo-crenulata, papillosa, explanata c. 0.27 cm longa, 0.6 cm lata. *Gynostemium* breve, dorso convexum, c. 0.2 cm longum, clinandrio alte excavato, pariete postico alte bipartito, auriculis late rotundatis, concavis, extus convexis. *Anthera* cucullata, transversa, basi utrinque late rotundata, apice latissimo trilobulata, lobulis exterioribus divergentibus triangulis acuminatis, lobulo intermedio brevissimo late rotundato, connectivo convexo-incrassato ovato-orbiculari, c. 0.14 cm lata. *Stigma* majusculum, transverse ellipticum. *Pes gynostemii* cum ovario angulum acutum cum gynostemio angulum obtusum faciens, rectus, apice a sepalis lateralibus liber et obtusangule incurvus, linearis, convexus, papillosus, c. 0.46 cm longus. *Ovarium* teres, apicem versus sensim incrassatum, 6sulcatum, c. 0.6 cm longum, cum pedicello paulo tenuiore 0.25 cm longo densius stellato-pubescentibus.

SUMATRA. Djambi: Kerintji Peak, 2300—2700 m, epiphytical in

forest (H. C. ROBINSON and C. BODEN KLOSS, without date; H. A. B. BÜNNEMEIJER nrs. 9739, 9773, 9847, 9944, April—May 1920; "flowers light pink").

The affinity of this plant is not with *E. cymbidifolia* RIDL. as RIDLEY suggests, but with *E. floribunda* LINDL., etc.

Mr RIDLEY kindly compared specimens sent to Kew with his species.

Description from herbarium and flowers preserved in alcohol.

var. *brevifolia* J. J. S. n. var.

Caules approximati, carnosii, c. 16—17.5 cm longi, vaginis magnis latis tecti, parte superiore c. 2.75 cm longa flexuosi, 3—4folii. *Folia* oblongo-elliptica, obtusiuscula ad acutiuscula, basi breviter contracta, nervis c. 9—13 sicco supra subtusque prominentibus, costa media supra sulcata, coriacea, c. 9—12.5 cm longa, 4.3—3.3 cm lata; vaginae breves. *Inflorescentiae* c. 4, breviter pedunculatae, multiflorae, c. 13.5—14.5 cm longa, rachide costata, pilis stellatis vestita. *Bractae* reflexae, oblongo-3—5angulatae, acutae, eciliatae, concavae, 3nerviae, c. 0.475 cm longae. *Flores* mediocres, c. 0.6 cm lati, 0.95 cm longi, sepalis dorso densius stellato-puberulis. *Sepalum dorsale* cum ovario angulum obtusum faciens, ovato-ovale, obtusum, valde concavum, 3nervium, c. 0.475 cm longum, 0.3 cm latum. *Sepala lateral*ia, mentum conspicuum cum ovario angulum rectum faciens latum rectum truncatum fere 0.5 cm longum formantia, incurva, labellum amplexentia, oblique triangula, apice breviter contracta, obtusa, concava, 4nervia, c. 0.48 cm longa, 0.6 cm lata. *Petala* patentia, oblique subangulato-ovalia, apice contracta, obtusa, erosula, concava, 3nervia, c. 0.425 cm longa, 0.28 cm lata. *Labellum* erectum, 3nervium, c. 0.475 cm longum, lobis lateralibus ante basin lobi intermedii lamella conspicua transversa cum lobo medio angulum subrectum faciente, connatis hypochylium obcordato-suborbiculare concavum lobis late rotundatis apice erosulum pedi gynostemii adpressum explanatum c. 0.25 cm longum 0.275 cm latum formantibus, lobo intermedio recto, apice tantum recurvulo, spatulato, c. 0.3 cm longo, ungue quadrangulo-lineari, leviter canaliculato, intus nonnullis pilis malpighiaceis munito, lamina lateribus erecta, marginibus anticis apiceque recurvula, transverse rhombea, laxè undulata, basi late cuneata, antice late rotundata et medio obtuse triangulo-producta, angulis lateralibus obtusa, minute crenulata, c. 0.23 cm longa, 0.35 cm lata. *Gynostemium* dorso convexum, c. 0.24 cm longum, clinandrio concavo cum costula longitudinali, auriculis subfalcato-triangulis, obtusis. *Anthera* cucullata, ambitu obverse rotundato-triangula, apice 3dentata. dente intermedio triangulo, exterioribus paulo longioribus acuminatisque, connectivo convexo cum costula longitudinali, c. 0.15 cm lata. *Pollinia* 8, oblique clavato-pyriformia, compressa, basi acutissima, c. 0.07—0.08 cm longa. *Stigma* transversum, semilunatum. *Pes gynostemii* cum ovario angulum rectum faciens, rectus, apice obtusangule incurvus et a sepalis lateralibus liber, linearis antice convexus puberulusque, 0.43 cm longus. *Ovarium* pedicellatum 6sulcatum, dense stellato-pubescens, c. 0.6 cm longum.

SUMATRA. D'jambi: Kerintji Peak, 2200 m, epiphytical in forest (H. A. B. BÜNNEMEIJER n. 10107, May 1920; "flowers light green").

This variety is represented only by a single specimen. It differs from the type in the short broad leaves, the much larger bilobed hypochyl, the smaller midlobe distinctly pubescent within and the form of the anther.

Description from a dried specimen and an inflorescence preserved in alcohol.

var. **rotundata** J. J. S. n. var.

Caules validi, carnosi, inferne vaginati, apice longitudine c. 6.5 cm flexuosi et 7folli. *Folia* lineari-lanceolata, oblique acuta, basi paulum angustata, nervis pluribus sicco supra subtusque prominulis, costa media supra sulcata, c. 16—22 cm longa, 2.25—1.3 cm lata. *Inflorescentiae* c. 4, densius multiflorae, c. 9.5 cm longae, rachide stellato-puberula. *Bractee* reflexae, oblongo-triangularae, obtusiusculae, concavae, ciliolatae, 3nerviae, c. 0.35 cm longae. *Flores* majusculi, c. 0.875 cm lati, 1.15 cm longi, sepalis dorso sparse breviter stellato-puberulis. *Sepalum dorsale* subovato-ellipticum, obtusum, 3nervium, c. 0.625 cm longum, 0.375 cm latum. *Sepala lateralia* mentum conspicuum cum ovario angulum acutum faciens rectum basi leviter contractum apice rotundatum antice bene apertum c. 0.475 cm longum formantia, labellum non amplexentia, divergentia, late falcato-triangulara, margine postico rotundata, margine antico sigmoidea, acutiuscula, basi concava, 3nervia, c. 0.53 cm longa, basi 0.65 cm, supra basin 0.7 cm lata. *Petala* patentia, divergentia, oblique angulato-elliptica, obtusa, concava, margine recurvula, superne erosula, 3nervia, c. 0.55 cm longa, 0.33—0.37 cm lata. *Labellum* erectum, 3nervium, c. 0.575 cm, explanatum 0.62 cm longum, lobis lateralibus conspicuis, hypochylium majusculum obcordato-orbiculare 2lobum concavum pedi gynostemii adpressum c. 0.35 cm longum formantibus, lobo intermedio adscendente, cum hypochylis angulum obtusum faciente, latissime spathulato, expanso c. 0.425 cm longo, ungue oblongo, basi apiceque paulum dilatato, canaliculato, lamina basi concava, marginibus apiceque recurvula, transverse rhombea, margine antico laxo repandulo obtusissima, apiculata, angulis lateralibus obtusis irregulariter dentata, c. 0.26 cm longa, 0.5 cm lata. *Gynostemium* c. 0.2 cm longum, clinandrio concavo, dorso alte exciso, auriculis late obtusis, concavis. *Anthera* cucullata, typi similis. *Stigma* transversum, margine inferiore rotundatum. *Pes gynostemii* rectus, apice vix incurvulus, linearis, convexus, manifeste puberulus, c. 0.475 cm longus. *Ovarium* pedicellatum curvulum, 6sulcatum, breviter stellato-pubescent, c. 0.6 cm longum.

SUMATRA. Djambe: Kerintji Peak, 2200 m, epiphytical in the forest (H. A. B. BÜNNEMEIJER n. 10364, May 1920; "flowers light red").

This too is represented only by a single specimen.

In the narrow leaves, the form of the petals, midlobe of lip and anther it is similar to the type, but the hypochyl much resembles that of the var. *bre-vifolia*. It differs from both species and variety in the form of the flowers, diverging falcate lateral sepals and the rounded mentum. Only when more material comes to hand it may be decided whether the varieties may stand or not.

Description from a dried specimen and an inflorescence preserved in alcohol.

Eria (sect. *Urostachya*) **sarcophylla** SCHLTR.! in ENGL. Bot.Jahrb.XLV (1911), Beibl. No. 104, 42; KRZL. in Pflanzenr. IV. 50. II. B. 21, II (1911), 168.

Rhizoma breve. *Caules* approximati, clavati, e basi incrassata tenues, subteretes, parte superiore incrassata valde compressa et leviter flexuosa, dilute virides, c. 9—13 cm longi, inferne 0.35—0.375 cm diam., superne 1—1.2 cm lati, inferne vaginis tubulosis tecti, superne c. 4folii. *Folia* patentia, linearia, oblique acuta, marginibus incurvis valde canaliculata, carnosa, dilute viridia, supra nitida, subtus opaca, c. 15—19 cm longa, inexplanata 0.3—0.47 cm lata; vaginae breves, tubulosae, antice rumpentes, c. 0.4—0.8 cm longae. *Inflorescentiae* dense multiflorae, cylindraceae, c. 7—7.5 cm longae, pedunculo tereti, pallide viridi, dilute ligneo-puberulo, c. 1.3 cm longo, pluribus vaginulis triangulis acutis c. 0.17 cm longis donato, rachide pedunculo simili sed angulata. *Bractee* reflexae, triangulae, acuminatae, concavae, basi convexae, albiae, subsemipellucidae, c. 0.17—0.2 cm longae. *Flores* parvi, densi, patentissimi, non resupinati, leviter odorati, albi, c. 0.47 cm lati, 0.5 cm longi, sepalis dorso praesertim ad basin leviter pallide ligneo-pubescentibus. *Sepalum* dorsale late ovatum, apice subcontractum, obtusum, concavum, c. 0.275 cm longum, 0.2 cm latum. *Sepala* lateralia ad pedem gynostemii decurrentia, mentum rectum cum ovario angulum rectum faciens antice valde apertum obtusum c. 0.175 cm longum formantia, oblique triangula, obtusiuscula vel obtusa, concava, c. 0.3 cm longa, basi fere aequilata. *Petala* divergentia, oblique oblango-ovata, obtusa, c. 0.23 cm longa, 0.1 cm lata. *Labellum* cum pede gynostemii angulum acutum faciens, subrectum, vix undatum, 3lobum, album, explanatum c. 0.24 cm, usque ad apicem loborum lateralium 0.15 cm longum, hypochylis c. 0.13 cm latum; lobi laterales subulati, subfalcati, basi ante lobum intermedium membrana tenui transversa conjuncti, hypochylium concavum formantes; lobus intermedius spathulato-rhombeus, apice late obtusangulus, vix acuminatus, concavus, c. 0.175 cm longus, fere 0.2 cm latus. *Gynostemium* cum ovario angulum subrectum faciens, breve, crassum, subcubicum, violaceum, c. 0.075 cm longum, clinandrio alte excavato, transverse ovali. *Anthera* cucullata, transverse quadrangula, medio in lobulum obtusum incurvum producta, angulis exterioribus in dentem porrectum exeuntibus, alba, macula magna atropurpurea, c. 0.07 cm lata. *Pollinia* 8, phalanges 2 formantia, clavata, alba, c. 0.06 cm longa. *Stigma* transversum, semiorbiculari-reniforme. *Rostellum* recurvum, obtusum. *Pes gynostemii* cum ovario angulum rectum faciens, rectus, apice subincurvus, linearis, albus, c. 0.175 cm longus. *Ovarium* pedicellatum subclavatum, puberulum, dilute viride, 0.24 cm longum.

SUMATRA. West coast: Agam, Padang Pandjang, 900 m (R. SCHLECHTER n. 16034!, February 1907; cult. in Hort. J. J. S.).

Dr R. SCHLECHTER did not mention in his description, that the leaves are very much canaliculate, almost terete.

Description from a living specimen, for which I am indebted to Dr SCHLECHTER.

var. **breviloba** J. J. S. n. var.

Rhizoma abbreviatum, ramosum. *Caules* numerosi, valde approximati, erecti,

clavati, parte incrassata plus minusve serpentine et 3—5folii, c. 11—21 cm longi, inferne 0.325—0.5 cm diam., superne 0.75—1 cm lati, initio vaginati. *Folia* linearia, valde involuto-canaliculata, pseudoteretia, acutiuscula, carnosa, c. 16—20 cm longa, 0.2—0.4 cm, explanata 0.5—0.77 cm lata; vagina brevis, adnata. *Inflorescentiae* c. 4 in quoque pseudobulbo in excavationibus, patentes vel erecto-patentes, brevissime pedunculatae, dense multiflorae, puberulae, c. 5—6.5 cm longae. *Bractee* reflexae, late ovato-triangularae, acutae, concavae, interdum subdenticulatae, subglabrae, 3nerviae, c. 0.2 cm longae, 0.15 cm latae. *Flores* minimi. *Sepalum dorsale* ovato-orbiculare, obtusum, dorso ad basin parce puberulum, 3nervium, bene 0.2 cm longum, 0.17 cm latum. *Sepala lateral*ia cum pede gynostemii mentum rectum cum ovario angulum rectum formans truncato-obtusum facientia, oblique ovato-triangulara, obtusa, dorso ad basin parce puberula, 3nervia, bene 0.2 cm longa, 0.225 cm lata. *Petala* oblique ovata ad oblongo-ovata, interdum superne contracta, obtusa, 1—3nervia, fere 0.2 cm longa, 0.075—0.1 cm lata. *Labellum* erectum, concavum, 3nervium, c. 0.2 cm, usque ad apicem loborum lateralium 0.125—0.14 cm longum; lobo laterales trianguli, obtusi, ante basin lobi intermedii lamella transversa conjuncti, hypochylium ambitu suborbiculare basi truncatum valde concavum pedi gynostemii adpressum formantia; lobus intermedius e basi breviter unguiculata transverse rhombeus, angulis lateralibus obtusus, apice obtusissimus vel late triangulus, basi laminae late cuneatus, c. 0.15 cm longus, 0.18 cm latus. *Gynostemium* breve, cum ovario angulum obtusum fere rectum faciens, crassum, c. 0.1 cm longum, clinandrio concavo, truncato, dorso leviter rotundato-exciso. *Anthera* cucullata, transversa, apice 3loba, lobis exterioribus oblique triangulis, acutis, lobo intermedio rotundato-triangulo, connectivo leviter incrassato convexo, 0.08 cm lata. *Pollinia* 8, inaequalia, oblique clavata, curvula, c. 0.06 cm longa. *Rostellum* porrectum, obtuse triangulum. *Stigma* semi-orbiculare. *Pes gynostemii* cum ovario angulum rectum faciens, linearis, apice brevissimè liber et incurvulus, truncatus, dorso pubescens, c. 0.125 cm longus. *Ovarium* 6sulcatum, cum pedicello brevissimo lanato-pubescens, 0.275 cm longum.

SUMATRA. Bengkoeloe: Boekit Barisan, Rimbo Pengadang, 1000 m (Exp. E. JACOBSON 1916, AJOEB, cult. in Hort. Bog. sub n. 742). West coast: Pariaman, Kajoe Tanam (W. GROENEVELDT, cult. sub n. 1381); Loeboek Sika-ping, Taloe (W. GROENEVELDT, cult. sub n. 395).

All the specimens enumerated above differ from the type especially in the shorter blunt side lobes of the lip.

The variety seems to be much more abundant in the Padang Uplands than the species.

Description from specimens preserved in alcohol.

Eria (sect. Nutantes) **compressoclavata** J. J. S. n. sp.

Rhizoma repens, valde ramosum, breviusculum, initio vaginis obtectum. *Caules* c. 0.6 cm dissiti, cum rhizomate angulos acutos facientes, clavati, inferne subteretes, superne compressi, sectione transversa oblongo-elliptici angulis ob-

tusis, virides, c. 7.5—11 cm longi, apice 3—4folii, parte incrassata 4—4.5 cm longa, 0.85—1 cm lati, internodiis subaequilongis, ad c. 1.4 cm longis, vaginis diu persistentibus, tubulosis, adpressis, mox excrescentibus, membranaceis, fuscis. *Folia* patentissima, arcuato-recurvula, suboblique lanceolata, sensim suboblique acuminata, acuta, basi paulum angustata sessilia, vix undulata, in utraque parte costae mediae supra sulcatae subtus leviter carinatae nervis 2 majoribus, utrinque nitide viridia, tenuiter coriacea, superiora plerumque maxima, c. 8—12 cm longa, 2.2—3 cm lata. *Inflorescentia* ad apicem caulium, nutans, 1flora, vaginula con-
 duplicata c. 1.5 cm longa viridi ad basin, pedunculo brevissimo, vaginis tubulosis multo longioribus ad c. 1.25 cm longis tecto. *Bractea* reflexa, ovata, acute acuminata, brevissime ciliolata, convexa cum sulco longitudinali, ochracea, basin versus brunneo-suffusa, c. 1 cm longa; 0.55 cm lata. *Flos* mediocris, valde apertus, c. 1.9 cm latus, sepalis petalisque concavis, intus pallide flavescentibus, basi rubris cum striis pallide flavescentibus, dorso dilute flavis. *Sepalum dorsale* oblongum, basin versus paululum angustatum, apice brevissime obtuse acuminatum, c. 1.35 cm longum, 0.6 cm latum. *Sepala lateralialia* subtrapezoidea, margine postico valde rotundata, margine antico obtusangula, apice obtusa, breviter conico-apiculata, c. 1.15 cm longa, fere 1 cm lata. *Petala* oblique obovato-oblonga, oblique rotundata, subfalcata, c. 1.1 cm longa, 0.5 cm lata. *Labellum* mobile, 3lobum, erectum, medio rectangule recurvum, basi truncata angustissime citrinum, fascia media inter lobos laterales pallide flavesceus, 3costatum, costa intermedia alte aliformi, ad basin lobi intermedii excisa, lacinia libera lineari anteposita, alba, inter lobos laterales vix roseo-suffusa, costis lateralibus inter lobos laterales striam atropurpuream tantum facientibus, ante basin lobi intermedii valde lamelliformi-elevatis, in basi lobi intermedii in lobulum obtusum porrectum terminante, inexplatum e basi usque ad apicem loborum lateralium bene 1.1 cm metiens, explanatum usque ad lobi intermedii apicem c. 0.85 cm, cum lobis lateralibus 1 cm longum, 1.35 cm latum; lobis laterales erecti, angustius falcato-trianguli, acuti, margine postico superne incurvi, concavi, purpurei, apice et margine antico flavescentes; lobus intermedius porrectus, obverse aequilaterialiter trapeziformis, apice lato leviter obtuse trilobulus, dilute citrinus, medio albidus, lobis lateralibus bene brevior, c. 0.35 cm longus, basi 0.375 cm, apice 0.6 cm latus. *Gynostemium* satis gracile, subclavatum, curvulum, dorso convexum, flavesceus, subtus marginibus et striis 3, rubrum, c. 0.775 cm longum, clinandrio alte excavato, truncato, postice vix trilobulo. *Anthera* cucullata, transverse quadrangula, apice truncata, basi bilobula, connectivo valde convexo citrino, ceterum albida, c. 0.15 cm lata. *Pollinia* 8, breviter pyriformia, lateraliter compressa, flavescenti-alba. *Stigma* magnum, longitudinale, subovale. *Pes gynostemii* cum gynostemio angulum rectum cum ovario angulum acutum faciens, vix incurvulus, late linearis, apice truncatus, dimidio inferiore 3costulatus colore gynostemii, dimidio superiore incrassatione carnosa quadrangula subplana et antice sulco conspicuo longitudinali canaliculata medio pedis in appendicem erectam triangulo-bidentatam cum pedis parte inferiore excavationem 3costu-

latam verruculosam formantem instructus, 0.3 cm latus. *Ovarium* pedicellatum tenue, 6sulcatum, adpresse pubescens, pallide viride, c. 1.3 cm longum.

BANGKA. (H. A. B. BÜNNEMEIJER, cult. in Hort. Bog. XII B, IX, 130).

In the dimensions and colouring this appears to be nearest to *E. neglecta* RIDL. It differs, however, in the thicker stems, the number of leaves, the much larger flowers, the sepals not being lanceolate, etc.

Amongst the sketches of Dr R. SCHLECHTER there is one from Long Dett in Borneo that must be a near ally of *E. compressoclavata* but I have failed to find a description of the plant.

Description from a cultivated specimen.

Eria (sect. *Trichotosia*) **suborbicularis** J. J. S. nom.nov. — *Trichotosia integra* RIDL. in Journ.Fed.Mal.St.Mus.VIII (1917), 104.

Caulis elongati, tenuiusculi, adpresse tenuiter hirsuti, partibus adsunt ad 60 cm longi, internodiis 2.2—3 cm longis. *Folia* patentia, lineari-lanceolata, apicem versus angustata, apice oblique, dimidio brevior acuto, dimidio longior lineari obtuso, margine sicco revoluta, novella margine pilosa, glabrescentia, tenuiter coriacea, c. 7—9 cm longa, 0.9—1.2 cm lata; vaginae tubulosae, breviuscule dilute rubiginose hirsutae, basi et antice fascia longitudinali densius longiusque pilosae. *Inflorescentiae* vaginas dorso ad basin perforantes, foliis multoties breviores, laxae pauciflorae, c. 2.5—3 cm longae, pedunculo patentissimo, tenui, dilute ferrugineae pubescente, 1.1—1.2 cm longo, rachide quaquaverse flexuosa, indumento pedunculi, 1.5—2.5 cm longa. *Bractee* persistentes, patentissimae, late ovatae, obtusae, basi latae, valde concavae, dorso hirsutae, ad c. 0.375 cm longae, 0.3 cm latae. *Flores* parvi, macerati 0.45 cm longi, extus longe erecto-patenter hirsuti. *Sepalum dorsale* cum ovario angulum obtusum faciens, incurvulum, concavum, oblongum, obtusum, 3nervium, bene 0.3 cm longum, 0.14 cm latum. *Sepala lateralia* cum pede gynostemii mentum cum ovario angulum obtusum faciens a latere visum subrectangulum formantia, oblique triangula, margine postico curva, apice incrassato dorso gibbosa, 3nervia, c. 0.34 cm, margine antico 0.26 cm longa, basi 0.28 cm lata. *Petala* oblique anguste oblonga, subfalcata, obtusa, dorso et margine pilis raris inspersa, 1nervia, 0.275 cm longa, 0.1 cm lata. *Labellum* leviter curvulum, concavum, integrum, explanatum suborbiculare, glabrum, ecallosum (?), 3nervium, c. 0.25 cm longum, 0.225 cm latum. *Gynostemium* rectum, basi subtus contractum, c. 0.15 cm longum, apice late triangulo, auriculis latis, angulato-rotundatis, concavis. *Anthera* cucullata, apice in rostrum breve late rotundatum recurvulum producta, thecis convexis postice rotundato-productis, connectivo latius costiformi, c. 0.08 cm longa. *Rostellum* recurvum, breve, canaliculatum. *Stigma* late hippocrepidiiforme, concavum. *Pes gynostemii* cum ovario angulum obtusum faciens, rectus, linearis, canaliculatus; apice incrassatus, fere 0.2 cm longus.

SUMATRA. Djambi: Barong Baroe, westside of Barisan Range, 1300 m (H. C. ROBINSON and C. BODEN KLOSS). Palembang: Goenoeng Raja, 1600 m (C. G. G. J. VAN STEENIS n.3581, 2 November 1929); Goenoeng Pesagi,

2000—2200 m, moss-forest, epiphytical, also on stumps and rocks, very common, forming large bunches reaching 1 m in length (C. G. G. J. VAN STEENIS n.3706, 5. November 1929; "flowers white").

Mr H. N. RIDLEY kindly informed me that in his opinion the plants collected by VAN STEENIS are conspecific with those found by ROBINSON and BODEN KLOSS, though there are slight differences.

Description from herbarium.

Dendrobium (sect. *Diplocaulobium*) **textile** J.J.S. n.sp.

Pseudobulbi elongati, tenues, basin versus incrassati, apice vix dilatati, basi deficiente, nitidi, sicco angulati, partes adsunt 25—33 cm longae. *Folium* lineare, breviter obtuse bidentatum, basi leviter contractum canaliculatumque, costa media supra canaliculata subtus prominula, rigide coriaceum, c. 12—13 cm longum, 0.5—0.65 cm latum. *Inflorescentia* fascicularis, spatha compressa nitida 1.9—2.1 cm longa, pedunculis c. 1.1 cm longis, 1floris, vaginulis tubulosis membranaceis inclusis. *Flos* majusculus. *Sepalum dorsale* e basi oblongo-triangulari anguste lineare, concavum, 5nervium, c. 3.2 cm longum, basi dilatata 1.3 cm longa 0.6 cm lata, superne 0.15 cm latum. *Sepala lateralia* cum pede gynostemii mentum cum ovario angulum acutum faciens vix incurvulum late obtusum dorso late canaliculatum c. 0.7 cm longum formantia, e basi margine antico oblique dilatata triangulari angustata, anguste lineari-caudata, canaliculata, 7nervia, c. 3.1 cm longa, parte dilatata 1.2 cm longa 0.95 cm lata. *Petala* anguste linearia, apicem versus filiformi-angustata, canaliculata, 3nervia, c. 2.7 cm longa, basi 0.16 cm lata. *Labelium* 3lobum, costis 2 longitudinalibus e basi usque in medium lobi intermedii, basi incrassata contiguas, deinde angustatis, in lobo intermedio undulatis, costa tertia undulata in dimidio inferiore lobi intermedii addita, explanatum ambitu late subobovatum, basi satis lata truncatum et utrinque lobulo parvo reverso obtuso auriculiformi donatum, totum bene 1.25 cm, usque ad apicem loborum lateralium 0.9—0.96 cm longum, ad lobos laterales 0.85 cm, basi 0.3 cm latum; lobi laterales lati, parte apicali libera oblique quadranguli, margine interiore et apice irregulariter marginati; lobus intermedius late oblongus, triangulo-subulato-acuminatus, valde undulatus, c. 0.5 cm longum, 0.4 cm latum. *Gynostemium* oblique conicum, leviter incurvulum, dorso convexum, marginibus medio leviter rotundato-obtusangule dilatatis, 0.45 cm longum, clinandrio excavato, apice triangulo acuto, auriculis latis irregulariter denticulatis. *Anthera* cucullata, a dorso compressa, antice visa transverse subovalis, apice truncata, basi producta truncataque, tota ambitu rotundato-quadrangula, antice minute verruculosa, c. 0.17 cm lata. *Pollinia* 4, in corpusculum ovale basi cordatum unita, lateraliter compressa, oblonga, exteriora extus convexa, interiora tenuissima, 0.125 cm longa. *Stigma* quinquangulare-orbiculare. *Pes gynostemii* subrectus, apice incurvulus, oblongus, intus incrassatione convexa apicem non attingente tectus, apice concavo marginibus elevatis costulaque 3 costatus, 0.65 cm longus. *Ovarium* teres, 6sulcatum, 0.4 cm longum; pedicellus elongatus, teres, 2.4 cm longus.

SELEBES. Donggala, 1600 m (Imported by the Department of Industry; "pseudobulbs crowded, the swollen part green, for the rest dark violet-brown, sepals yellowish, inside more white, minutely dotted purple, bordered purple, petals yellow base white, lip yellow, side lobes dotted reddish, the dots confluent and leaving yellow dotlike spots, column yellow, spotted dark at the base along the borders" (J. G. B. BEUMÉE).

A very distinct species with long pseudobulbs, linear leaves, a broadly three-lobed lip with the keels undulate on the midlobe.

Description from herbarium and a flower preserved in alcohol.

Dendrobium (sect. *Desmotrichum*) **Guttenbergii** J.J.S. n.sp.

"*Rhizoma* repens, teres, flavo-sordidum, 0.4 cm diam., internodiis 0.6—0.8 cm longis. *Caules* c. 4 cm dissiti, adscendentes, valde ramosi, leviter compressi, sectione transversa elliptici, fusco-virides, c. 30—40 cm longi, initio vaginati, internodio ultimo in pseudobulbum 1folium incrassato, nodis leviter constrictis; caulis primarius c. 10 cm longus, 6—7nodus, internodio ultimo compresso, elliptico, sulcato, sectione transversa elliptico, c. 4 cm longo, ad 1.8 cm lato, 0.6 cm crasso. *Folia* recurvula, oblongo-elliptica, subtus acute carinata, coriacea, satis atroviridia, supra nitida, subtus opaca, 9 cm longa, 3—3.5 cm lata" (H. VON GUTTENBERG). *Inflorescentiae* ante et pone folium, fasciculares, intervallis florem gignentes, vaginulis mox siccis c. 0.6 cm longis inclusae, pedunculis c. 0.8 cm longis, 1floris. *Flores* ephameri, parvuli, sepalis petalis et basi labelli atropurpuree maculatis, lobo intermedio aureo. *Sepalum dorsale* anguste oblongum, apicem versus angustatum, breviter acutatum, subacutum, 7nervium, c. 1.1 cm longum, 0.4 cm latum. *Sepala lateral*ia ad pedem gynostemii decurrentia, antice omnino libera, mentum breviusculum cum ovario angulum rectum faciens vix incurvulum, dorso convexum conicum obtusum retusum (an semper ?) c. 0.4 cm longum formantia, oblique anguste oblonga, marginibus subparallelis, apice breviter acutata, apiculata, margine antico basi breviter triangulo-dilatata, 7nervia, costa media dorso prominula, c. 1.2 cm longa, 0.4 cm basi fere 0.7 cm lata. *Petala* oblique lanceolata, apice plus minusve contracta, brevissime acuta vel obtusa, minute apiculata, 3nervia, fere 1.1 cm longa, 0.26—0.28 cm lata. *Labellum* concavum, 3lobum, undatum, gynostemium longe superans, 5nervium, subtus longitudinaliter sulcatum, costis 3 parallelis in $\frac{2}{5}$ partibus inferioribus rectis, costa intermedia distincta sed bene humiliore, in $\frac{3}{5}$ partibus superioribus omnibus similibus et valde undulatis infra apicem evanescentibus, inexpansum 1.2 cm, expansum 1.3 cm longum; lobi laterales erecti, antice vix producti, obtusanguli, hypochylium cuneato-obovatum c. 0.8 cm longum 0.6 cm latum formantes; lobus intermedius porrectus, unguiculatus, bene 0.5 cm longus, ungue quadrangulo, leviter undulato, bene 0.2 cm longo, 0.25 cm, superne 0.23 cm lato, lamina abrupte dilatata, obverse subaequilateraliter trapeziformi, apice leviter rotundato-truncato cum apiculo obtuso, parciissime plicato lobulatoque, apice excepto crenulato, 0.3 cm longo, 0.7 cm lato. *Gynostemium* dorso convexum, 0.34 cm longum, clinandrio excavato utroque latere plus minusve dentato, filamento

triangulo. *Anthera* cucullata, postice producta et in clinandrio quadrans, apice producta rotundato-triangular papillosa. *Stigma* parvum, semiovale, apice rotundatum. *Pes gynostemii* cum ovario angulum rectum faciens, vix incurvulus, oblongus, truncatus, concavus, 0.44 cm longus. *Ovarium* curvulum, obconicum, 6sulcatum, c. 0.6 cm longum.

SUMATRA. East coast: Karolanden, Berastagi (H. von GUTTENBERG, April 1929, cult. in Hort. Rostock).

This plant is, apart from other characteristics, at once recognizable by the three keels of the lip being all of them undulate in the upper portion.

Description from flowers preserved in alcohol, that of the vegetative parts I am owing to the kindness of Prof. Dr H. von GUTTENBERG.

Dendrobium (sect. Rhopalanthe) **crumenatum** Sw. in SCHRAD. Journ.Bot. II (1799), 237; etc.

var. **diuturnum** J. J. S. n.var.

Planta valida. *Flores* quam in type bene majores, 2 dies viriditatem conservantes.

MENTAWAI ISLANDS (J. C. F. HOYKAAS, cult. in Hort. E. JACOBSON et in Hort.Bog.sub n. 1091).

This plant of which I have already made mention formerly (in Ann.Jard. Bot.Buit.XXXV, 58) differs from the type in the much more robust habit and the larger flowers, which open always at the same day together with the common form, but last full two days.

Dendrobium (sect. Rhopalanthe) **ovatipetalum** J.J.S. n.sp.

Caules elongati, 1.45—1.65 m longi, supra basin in pseudobulbum fusiformem c. 4nodem sicco costatum c. 18 cm longum vaginis tectum incrassati, deinde attenuati, compressi, foliati, internodiis 3.5—4 cm longis, parte apicali longissima folia rudimentaria gerente, flores gignente, internodiis ad 6.5 cm longis. *Folia* sessilia, oblonga, apicem versus leviter angustata, obtusa, retusa, costa media supra subcanaliculata subtus prominula, sicco rigide coriacea, 7—8.5 cm longa, 2.5—2.75 cm lata. *Inflorescentiae* fasciculares, squamis tectae. *Flores* majusculi. *Sepalum dorsale* oblongo-ovato-triangular, apicem versus angustatum, obtusiculum, vix apiculatum, 5nervium, bene 1.9 cm longum, 0.85 cm latum. *Sepala* lateralia lacinia triangular ad pedem gynostemii decurrentia, mentum conicum cum ovario angulum acutum fere rectum faciens dorso leviter undatum apice brevissime contractum obtusum 1.55 cm longum formantia, obtusangule triangular, margine antico leviter obtusangule excisa, obtusiuscula, c. 1.95 cm margine antico 2.85 cm longa, basi 1.9 cm metientia. *Petala* oblique subrhombeo-ovata, obtusa, 3nervia, c. 1.8 cm longa, 1.2 cm lata. *Labellum* 3lobum, explanatum ambitu cuneato-obovatum, 5nervium, c. 2.7 cm, usque ad apicem loborum lateralium 1.95 cm longum, ad lobos laterales 1.7 cm latum, costis 3 parallelis satis conspicuis basin non attingentibus in $\frac{3}{5}$ partibus supra basin lobi intermedii abrupte terminantibus in lobo intermediis magis elevatis

et praesertim apice rugulosis, costa minore brevioraque utrinque addita, costa intermedia exterioribus paulo longiore; lobi laterales erecti, vix incurvuli, margine antice anguste incurvi, apice breviter liberi, oblique subquadranguli, antice truncati, angulis exterioribus rotundato-obtusi; lobus intermedius transverse ovalis, apice marginibusque recurvus, parte mediana convexus, basi lacinulatus, apice vix retusus cum apiculo minimo, c. 0.85 cm longus, 1.4 cm latus. *Gynostemium* breve, latum, ovario crassius, marginibus obtusangulis, c. 0.3 cm longum, clinandrio alte excavato transverso, filamento triangulo acuminato, auriculis triangulis falcato-incurvis obtusis. *Anthera* cucullata, postice bilobulato-producta et in clinandrium quadrans, antice leviter convexus, quadrangula, apice lato truncata, dorso bilobula, glabra, c. 0.26 cm lata. *Pollinia* 4, longa, angusta, subclavata, falcata, extus convexus, intus subplana, 0.225 cm longa. *Rostellum* distinctum, porrectum, transversum, obtusangule convexus. *Stigma* longitudinale, 7angulare, basi bilobulum. *Pes gynostemii* cum ovario angulum acutum fere rectum faciens, leviter undatus, linearis, canaliculatus, costa longitudinali inconspicua a stigmate decurrente dimidio superiore incrassata apice in glandulam conspicuam longitudinalem excurrente, c. 1.55 cm longus. *Ovarium* 6sulcatum, c. 0.4 cm longum; pedicellus teres, 1.2 cm longus.

HALMAHERA (V. M. A. BEGUIN n. 4, cult. in Hort. Bog.; "flowers fragrant, pure white with the keels yellow" [C. G. G. J. VAN STEENIS]).

In the colour agreeing with *D. crumenatum* Sw. but apparently sufficiently distinct. If differs from the said species in the broad, ovate, blunt petals, the more conspicuous keels of the lip and the broad transverse midlobe.

Description from herbarium and flowers preserved in alcohol.

***Dendrobium* (sect. *Ceratobium*) *laxiflorum* J.J.S. n.sp.**

Caules validi, inferne leviter incrassati, c. 1.15 m longi, internodiis ad c. 5.4 cm longis. *Folia* patentia, lanceolata, versus apicem angustata, inaequaliter anguste obtuse bilobula, basi breviter contracta, sicco rigide coriacea, ad c. 13.75 cm longa, 2.9 cm lata, superiora sensim decrescentia; vaginae tubulosae, internodiis paulo breviores. *Inflorescentiae* e caulium parte superiore, patentes, elongatae, laxissime pluriflorae, pedunculo tereti, c. 2.75 cm longo, nonnullis vaginulis brevibus tubulosis donato, rachide leviter fractiflexa, tereti, c. 43 cm longa. *Bractee* breviter tubulosae, apice obliquae, c. 0.4 cm longae. *Flores* c. 12, patentes, supraaxillares, majusculi, c. 7 cm longi. *Sepalum dorsale* porrectum, apice recurvum, marginibus valde recurvis convexus, apice tantum concavum, distincte undulatum, lineare, basi dilatatum, apice acute acuminatum, 5nervium, c. 3.1 cm longum, basi 0.63 cm, medio bene 0.4 cm latum. *Sepala lateralibus* cum pede gynostemii mentum conicum cum ovario angulum rectum faciens apice incurvulum et breviter calcariforme obtusum c. 1 cm longum formantia, decurva, distincte undulata, e basi oblique triangula margine antico lacinula brevis ad calcar decurrente oblique linearia,

acuta cum apicula satis conspicuo conico acuto, 5nervia, 3 cm longa, basi 1.2 cm, medio c. 0.425 cm lata. *Petala* longiora, erecta, divergentia, angulum acutum facientia, linearia, basin versus sensim angustata, bistorta, acuta, non undulata, 3nervia, c. 5.75 cm longa, superne fere 0.5 cm, basi 0.25 cm lata. *Labellum* basi longitudine bene 0.3 cm pedi gynostemii adnatum, deinde obtusangule recurvum, 3lobum, 1.7 cm longum, costis 2 validis parallelis erectis carnosis laevibus supra basin lobi intermedii interruptis parte antica humilioribus infra apicem sensim evanescentibus, costa tertia minore interposita supra basin addita fere in medio lobi intermedii subabrupte humiliore deinde abrupte conspicue altiore apicem fere attingente, explanatum ex ungue brevi magnam partem pedi gynostemii adnato cum lamina angulos obtusos faciente ambitu ovatum, c. 2.23 cm longum, ad lobos laterales fere 1.1 cm latum, ungue 0.45 cm longo, parte libera 0.1 cm longa; lobi laterales erecta, gynostemium aequantes, parallelo-grammiformes, postice-obtusanguli, angulo antico breviter porrecto subtruncato-obtusi, basi 0.7 cm lati; lobus intermedius porrectus, recurvulus, rhombéo-ovatus, obtusus, breviter abrupte acute triangulo-apiculatus, undulatus, 1 cm longus, 0.87 cm latus. *Gynostemium* ovarium continuum, rectum, dorso convexum, apice ad basin filamentum gibbosum, costa longitudinali laterali ab auricula decurrente basin versus evanescent utrinque, 0.65 cm longum, clinandrium alte excavato transversum, filamentum brevi subulato, auriculis oblique quadrangulis, oblique truncatis, angulo antico obtusangulo cum dente parvo, angulo postico longiore obtuso. *Anthera* cucullata, basi 4lobulata in clinandrium quadrans, ambitu quadrangula, dorso latissima, antice triangula, apicem versus angustata, apice rotundata hirtellaeque, antice convexa cum sulco longitudinali, bene 0.2 cm lata. *Pollinia* 4, leviter a latere compressa, anguste oblique lanceolata, extus convexa, intus plana, c. 0.18 cm longa. *Stigma* subovatum. *Pes gynostemii* cum ovario et gynostemio angulum rectum faciens, subrectus, late linearis, apicem versus angustatus, canaliculatus, bene 1 cm longus, superne longitudine 0.4 cm labello adnatus. *Ovarium* cum pedicello angulum obtusum faciens, teres, tenuiter 6sulcatum, 0.6 cm longum; pedicellus teres, c. 2.7 cm longus.

HALMAHERA (V. M. A. BEGUIN n. 7, cult. in Hort. Bog. sub n. 928, VI, 13; "inflorescence very brittle, flowers deliciously fragrant, petals greenish, lateral sepals light green, lip white, beautiful dark violet on the keels, outside white, lateral lobes densely and finely sprinkled dark violet outside, the dots especially towards the top confluent, anther yellow, almost golden yellow"; [C. G. G. J. VAN STEENIS]).

Among the allied species such as *D. antennatum* LNDL., *D. d'Albertisii* RCHB. F., *D. Stratiotes* RCHB. F. etc., this new species agrees with *D. Demmenii* J. J. S. in possessing only three keels on the lip. It differs, however, in the much longer, very lax inflorescences, narrower sepals, a much longer midlobe, different keels etc.

Description from herbarium and flowers preserved in alcohol.

Dendrobium Groeneveldtii J. J. S. in Bull. Jard. Bot. Buit. 3e sér. LI (1920), 79.

The following notes were made from a living specimen of n. 393.

Stems dark purple, shining, leaves dark olive-green, dark violet beneath. *Sepals* and petals creamy yellowish; more or less suffused with purple outside. Lip white. *Column* white with the auricles orange.

Dendrobium (sect. *Calcarifera*) **atjehense** J. J. S. n.sp.

Caules elongati, tenues, partes adsunt 36—48 cm longae, internodiis 2—2.5 cm longis. *Folia* patentia, lineari-lanceolata, sensim longe angustata, acutissima, nervis 5 majoribus pluribusque minoribus sicco subtus prominentibus, sicco tenuiter papyracea, ad c. 14.5 cm longa, 1.25 cm lata, superiora decrescentia; vagina tubulosa, internodia paululum superans, apice truncata. *Inflorescentiae* *Flos* maceratus 3 cm longus, niveus, macula flava longitudinali in labello. *Sepalum dorsale* subovato-ellipticum, obtusum, basi latum, 7nervium, c. 1.5 cm longum, 0.75 cm latum. *Sepala lateralia* lacinia elongata oblique lineari-oblonga 0.43 cm lata ad pedem gynostemii decurrentia, marginibus anticis longitudine 0.65 cm connata, mentum longum tenue calcariforme obtusum c. 1.5 cm longum formantia, parte antica oblique oblongo-ovalia, obtusa, apiculata, 9nervia, c. 1.5 cm, marginé antico 2.6 cm longa, 0.74 cm lata. *Petala* oblique plus minusve spathulata, 3nervia, c. 1.75 cm longa, ungue late lineari c. 0.46 cm longo 0.18 cm lato subabrupte vel sensim in laminam plus minusve ellipticam obtusam fere 1.3 cm longam fere 0.6 cm latam dilatato. *Labellum* spathulatum, 5nervium, 3.1 cm longum, ungue elongato, lineari, basi longitudine c. 0.6 cm pedi gynostemii adnato, $\frac{1}{3}$ parte mediana leviter ventricosus, ad apicem partis ventricosae lamellis 2 brevibus erectis triangulis acutis antice intra marginem decurrentibus instructo, 1.6 cm longo, apice fere 0.3 cm, medio 0.25 cm lato, lamina inexplanata convexa, marginibus superne recurvis rhombea, explanata cuneato-obovata, apice lato breviter 3lobula, lobulis exterioribus oblique rotundatis, lobulo intermedio brevior brevissimo obtusissimo, dimidio inferiore margine erosula, nervis 5 approximatis incrassatulis supra medium evanescentibus, 4 exterioribus basi binis divergentibus magis elevatis denticulatis et intra unguis margines decurrentibus, c. 1.5 cm longa, bene 1 cm lata. *Gynostemium* crassum, dorso convexum, c. 0.5 cm longum, auriculis oblique quadrangulis, falcato-incurvis, apicem versus leviter angustatis, truncatis, apice minutissime erosulis. *Pes gynostemii* linearis, canaliculatus cum costa longitudinali, c. 1.6 cm longus. *Ovarium* c. 0.5 cm longum; pedicellus 1.6 cm longus.

SUMATRA. Atjeh: Boer ni Poepandji, epiphytical (A. FREY-WYSSLING n. 37, 22 June 1930).

The nearest ally of this species appears to be *D. croceocentrum* J. J. S. from which it differs in the broader leaves, longer flowers, longer mentum, spathulate petals and the much longer claw of the lip.

Description from a few dried upper portions of stems and a single dried flower.

Dendrobium (sect. *Calcarifera*) **hymenophyllum** LNDL. (non KRZL.) Gen. et. Sp. Orch. (1830), 86; etc.

var. **sumatranum** J.J.S. n. var.

Differt a speciminibus javanicis floribus intense purpureis.

SUMATRA. West coast: Agam, craterwall of Manindjau lake, 600—800 m (E. JACOBSON, cult. sub nrs. 557 and 469; "pedicel dark purple, ovary dark green suffused with purple, sepals and petals shining dark purple bordered greenish yellow, lip yellowish purple, outside very densely inside much less densely dotted purple, apex yellowish green, column violet-purple, base, tip of auricles and filament transparently wax-white, anther greenish yellow").

According to the description *D. hymenophyllum* KRZL. is a quite different plant.

Bulbophyllum fibrosum J.J.S. in Bull.Jard.Bot.Buit.3e sér.II (1920), 89.

Pseudobulbi non compressi, antice longitudinaliter canaliculati, c. 0.7—0.8 cm diam. *Folium* oblongo-ellipticum, apice recurvo in foliis angustioribus sub-acuto, in foliis latioribus obtusangulo, costa media supra sulcata subtus obtuse prominente, subcarnoso-coriaceum, dilutius viride, supra nitidulum, subtus opacum.

The above additional notes have been traced from a living specimen sent by Mr E. JACOBSON under n. 1796.

Bulbophyllum (sect. *Sestochilus*) **ecornutum** J.J.S. in Bull.Jard.Bot.Buit. 2e sér. XIII (1914), 32. — *B. cornutum* RCHB. f. var. *ecornutum* J.J.S. in Fl. Buit. VI (1905), 445; Fig.Atl.fig.CCCXXXVII.

var. **deliense** J.J.S. n.var.

Sepala semipellucide mellina, atrovioleaceo-punctata, lateralia marginibus proximis densius punctata. *Labellum* late triangulo-cordatum, vix trilobum, lobis lateralibus semierectis rotundatis brevissime serrulato-ciliolatis, lobo intermedio triangulo valde convexo apice recurvo non producto, pallide sordide flavescens, densissime minuteque violaceo-puncticulatum, margine atrovioleaceum, c. 0.6 cm longum et latum.

SUMATRA. East coast: Deli (Exp. M. TREUB, 1894, JAHERI, cult. in Hort.Bog.II M, A, 93). West coast: Tanah Datar, Boekit Palöempang (A. V. THEUNISSEN, cult. in Hort. E. JACOBSON sub n. 1641); Pematang Pandjang (A. V. THEUNISSEN, cult. in Hort. E. JACOBSON sub n. 1655).

Differing from the type in the colour of the flowers and the shape of the lip.

var. **teloense** J.J.S. n.var.

Sepala petalaeque margine tantum atrovioleaceae punctata, sepala lateralia dimidiis proximis magnam partem punctata. *Labellum* reniforme, obsolete trilobum, lobis lateralibus late rotundatis breviter serrulato-ciliolatis, lobo intermedio subobsoleto apice recurvo obtuso, sordide violaceum, medio flavescenti-suffusum, margine atrovioleaceum, c. 0.6 cm longum, 0.8 cm latum.

BATOE ISLANDS. Poelau Telo (H. RAAP, cult. in Hort. Bog. II M, A, 121).

The shape of the lip of this variety is still simpler than in the var. *deliense*. The colouring is also different.

Bulbophyllum (sect. *Sestochilos*) **decurviscapum** J.J.S. n.sp.

Rhizoma repens, radicans. *Pseudobulbi* parvuli, oblongi, sicco c. 1.5 cm longi, 1folii. *Folium* petiolatum, oblongo-ovatum, apicem versus angustatum, apice, deficiente, basi breviter, in petiolum acuminatum, marginibus sicco recurvulis, costa media supra sulcata subtus prominente, coriaceum, c. 21 cm longum, 6.7 cm latum; petiolus canaliculatus, c. 3.75 cm longus. *Inflorescentia* brevis, decurva, densissime multiflora, pedunculo brevissimo, decurvo, tereti, c. 3 cm longo, vaginulis majusculis imbricatis ample tubulosis superne accrescentibus furfuraceo-punctatis tecto, rachide longitudinaliter costata, c. 6 cm longa. *Bracteae* ovatae, longe tenuiter acuminatae, basi latae, concavae, 7nerviae, nervis dorso prominulis, furfuraceo-punctatae, c. 1.45 cm longae, 0.55 cm latae. *Flores* majusculi, quaquaversi, c. 2.2 cm longi, sepalis dorso minute furfuraceo-punctatis, nervis dorso prominentibus. *Sepalum dorsale* oblongum, apice longe angustatum sensim canaliculato-subulato-acuminatum, concavum, apice recurvum, 5nervium, c. 2 cm longum, bene 0.6 cm latum. *Sepala lateral*ia cum pede gynostemii mentum breve late rotundatum cum ovario angulum subrectum faciens formantia, a sepalo dorsali paululum remote inserta, e basi lata oblique ovato-triangulari sensim longe acuminata, falcata, subsigmoidea, concava, apice canaliculata, 5nervia, c. 2.1 cm longa, basi 0.8 cm lata. *Petala* porrecta, oblique elliptica, subabrupte longe subulato-caudata, acutissima, costa media dorso convexo-incrassata, 5nervia, dorso margine excepto minute furfuraceo-punctata, tota c. 1.7 cm longa, bene 0.6 cm lata, cauda 0.65 cm longa. *Labellum* mobile, simplex, valde recurvum, carnosum, ambitu ovato-triangulum, obtusum, subtus crasse carinatum cum sulco longitudinali, sectione transversa triangulum, margine anguste incurvulo dense serrulatum, medio late canaliculatum cum costula longitudinali, canalicula marginibus angustis elevatis serrulatis limitata verruculosa in $\frac{1}{3}$ infra labelli apicem gibbo conspicuo convexo apicem attingente terminata, fascia lata utrinque inter canaliculam et labelli marginem angustum gibboque verrucis conico-subulatis dense vestitum, 0.8 cm longum, fere 0.6 cm latum. *Gynostemium* cum ovario angulum obtusum faciens, crassiusculum, dorso convexum, marginibus in utraque stigmatis parte leviter dilatatis, 0.55 cm longum, clinandrio excavato, filamento brevi filiformi, auriculis porrectis, antheram superantibus, e basi triangulari subulatis, vix falcatis, acutis. *Anthera* cucullata, transverse quinquangulari-reniformis, apice obtusangula, margine apiculi incurva denticulataque, denticulo intermedio longiore, fere 0.2 cm lata. *Stigma* subquadratum. *Pes gynostemii* cum ovario angulum rectum faciens, valde incurvus, superne a sepalis lateralibus liber, linearis, intus convexus, apice brevissimo rectangule incurvo tenuique, 0.8 cm

longus. *Ovarium* leviter obconicum, 6sulcatum, 0.55 cm longum, cum pedicello fere 0.2 cm longo furfuraceo-punctatum.

Habitat? (Cult. in Hort. J. K. VAN GELDER, Bandoeng, November 1927; "internodes of the rhizome 5 cm [I suppose that the distance between the pseudobulbs is meant]; pseudobulbs dead very dark olive-green; leaf dark green, shining, dark violet afterwards light green beneath; sepals outside dirty white with violet longitudinal lines inside the colour of *Stemona*-flowers but dead like the rest of the flowers").

A very distinct species of which I know no near ally.

Description from herbarium and flowers preserved in alcohol.

Bulbophyllum (sect. *Cirrhopetalum*) **Gusdorfii** J.J.S. in Bull.Jard.Bot.Buit. 2e sér. XXV (1917), 79.

SUMATRA. West coast: Sidjoendjoeng, Boekit Paloempang (A. V. THEUNISSEN, cult. in Hort. E. JACOBSON sub n. 1644).

This is, I think, merely a colour variation. I copy the description of Mr JACOBSON. "Pseudobulbs yellowish green, leaves green, peduncle light purple, bracts very light greenish yellow, pedicel and ovary brownish purple, dorsal sepal brownish purple, tip light greenish yellow, ciliae yellowish brown dotted purple, lateral sepals outside brownish purple, the infolded part blackish purple, light purple in the middle, apical half light ochreous, base outside yellowish suffused with light purple, petals very dark purple, bordered blackish purple, ciliae as in the dorsal sepal, with light ochreous papillae at the tip, lip blackish purple-brown with the top green, base outside whitish suffused with purple, column and foot purple, auricles and margin of clinandrium transparently whitish, anther yellow-greenish white".

Bulbophyllum (sect. *Cirrhopetalum*) **morotaiense** J. J. S. n.sp.

Rhizoma repens, prope pseudobulbos radicans. *Pseudobulbi* c. 2.5 cm distantes, ovoidei, quadranguli cum lateribus cavis, 1folii, c. 1 cm longi, usque ad 0.8 cm diam. *Folium* oblongum, obtusum, breviter bilobulum, basi petiolato-contractum, convexum cum sulco longitudinali, acute marginatum, carnosum, totum 7—8.25 cm longum, parte petioliformi 0.6—1 cm longa, 2—2.2 cm latum. *Inflorescentiae* e basi pseudobulborum, folia multo superantes, apice pauciflorae, pedunculo filiformi, c. 16.5—21 cm longo, inferne vaginulis c. 3 tubulosis donato, rachide leviter nutante, brevissima. *Bractae* oblongo-triangularae, acutae, concavae, Inerviae, c. 0.3 cm longae, 0.1 cm latae. *Flores* c. 5, pseudumbellati, parvi, c. 1.7 cm longi. *Sepalum dorsale* erectum, apice incurvum porrectumque, undatum, concavum, angulato-ovatum, longe subulato-filiformi-acuminatum, basi excepta sparse longe ciliatum, basi caudae brevissime ciliato, 5nervium, totum 0.8 cm longum, parte lata 0.4 cm longa, 0.28 cm lata. *Sepala lateral*ia parti superiori pedis gynostemii tantum inserta, basi ante apicem pedis gynostemii lobiformi-dilatata, mentum undatum formantia, basi libera, marginibus anticis supra basin divergentibus marginibus posticis supra basin incurvis et

usque infra apicem conglutinatis laminam oblongam apice bidentatam porrectam recurvulam convexam sulco longitudinali instructam 0.525 cm latam formantia, oblique linearia, satis acuta, supra basin obtusangule curvata, marginibus proximis tegentia, 5nervia, c. 1—7 cm longa, 0.28 cm lata. *Petala* inter sepala inserta, falcata, oblique oblongo-triangulara, sensim longe filiformi-acuminata, omnino sparse longe ciliata, basi lata, 3nervia, tota 0.6 cm longa, cauda c. 0.35 cm longa, supra basin unilateraliter contractam 0.175 cm lata, ciliis 0.075—0.1 cm longis. *Labellum* mobile, parvum, valde recurvum, a latere visum falcato-triangularum, supra visum oblongum, apice acutatum, subacutum, basi truncatum, marginibus supra basin lobulo parvo conico instructum, canaliculatum, canalicula costis obtusis limitata, costa angusta apicem attingente in canalicula, subtus crasse carinatum, carina alte canaliculata, carnosum, glabrum, fere 0.3 cm longum, 0.15 cm latum. *Gynostemium* dorso convexum, subtus concavum, marginibus in utraque stigmatis parte rotundato-alato-dilatatis, c. 0.2 cm longum, clinandrio excavato, apice aequilateraliter trapeziformi, auriculis latis obtusis cum dente brevi subulato ad apicem et dente minore in margine postico infra apicem. *Anthera* alte cucullata, ambitu ovata, apice recurvulo obtusa, connectivo incrassato, c. 0.12 cm longa. *Pollinia* 4, lateraliter compressa, a latere visa oblique quadrangulara, c. 0.06 cm longa, interiora minora tenuioraque. *Stigma* parvum, subquinquangulare. *Pes gynostemii* cum ovario angulum obtusum faciens, incurvus, linearis, parte superiore satis longe a sepalis lateralibus liber, apice abrupte dilatatus truncatusque, fere 0.3 cm longus. *Ovarium* obconicum, 6sulcatum, 0.2 cm longum; pedicellus tenuior, teres, 0.375 cm longus.

MOLUCCAS. Morotai (H. J. LAM n.126, cult. in Hort.Bog. sub n.928, V. 80; "flowers 6—7, light yellow, centre darker yellow, somewhat olive-green").

In many respects this seems to be near *B. stramineum* AMES from Palawan, but it differs in the much smaller flowers, the longer cauda of the dorsal sepal, the broader petals, the longer column foot. The description of the lip does not allow comparison.

Description from herbarium and materials preserved in alcohol.

Bulbophyllum (sect. *Cirrhopetalum*) **planibulbe** RIDL. Mat.Fl.Mal. Penins. I (1907) 79; Fl.Mal.Penins.IV (1924), 75. — *Cirrhopetalum planibulbe* RIDL. in Transact.Linn.Soc.III (1893) 364, t.LXIV.

var. **sumatranum** J. J. S. n.var.

Rhizoma elongatum, repens, etiam sub pseudobulbis radicans. *Pseudobulbi* c. 2.8 cm dissiti, valde horizontaliter complessi et tota longitudine rhizomati adnati, oblongo-obovati, c. 1.6 cm longi, 0.7 cm lati, 1folii. Folium ovatum, obtusum, brevissime rotundato-bilobulum, leviter convexum, costa media supra leviter sulcata subtus prominula, rigidum, c. 1.5 cm longum, 0.8 cm latum. *Inflorescentiae* e rhizomate, graciles, apice pauciflorae, pedunculo filiformi, c. 6.5 cm longo, parte inferiore vaginulis c. 3 donato, rachide c. 0.8 cm longa. *Flores* c. 3, mediocres, dilute virescenti-flavi, sepalis dorso purpureo-suffusis. *Sepalum dorsale* incurvum, ovatum, subulato-acuminatum, concavum, 5nervium,

c. 1.25 cm longum, 0.5 cm latum. *Sepala latèralia* porrecta, oblique triangulo-lanceolata, sensim longe caudato-subulato-angustata, concava, 5nervia, costa media dorso prominente, margine antico basi plica instructa, c. 2.5 cm longa, 0.4 cm lata. *Pètala* porrecta, late elliptica, acute acuminata, falcutula, concava, margine convexa, 3nervia, 0.55 cm longa, 0.5 cm lata. *Labellum* mobile, valde recurvum, lateribus erectis rotundatis convexis margine recurvis extus concavis inferne late canaliculatum, apice anguste triangulo obtuso convexo, costis 3 distinctis longitudinalibus apicem versus approximatis infra apicem confluentibus, subtus longitudinaliter sulcatum, basi pallide viride, purpureo-suffusum, apice luteum, 0.35 cm longum, 0.27 cm latum. *Gynostemium* dorso convexum, pallide virescenti-flavum, c. 0.38 cm longum, filamento triangulo, auriculis porrectis, elongatis, subulato-filiformibus. *Anthera* dilute flava, connectivo dilute viridi. *Stigma* magnum, alte excavatum, margine inferiore calliformi-incrassatum. *Pes gynostemii* cum ovario angulum obtusum faciens, incurvus, linearis, apice leviter dilatatus, truncatus, purpureus, 0.32 cm longus. *Ovarium* 6sulcatum, 0.27 cm longum; pedicellus tenuis, 0.65 cm longus.

SUMATRA. Lampoenig: Menggalá (H. A. GUSDORF, cult. in Hort.Bog. sub n.2).

Although this plant differs according to the description from *B. planibulbe* RIDL. in the flowers being twice as large and the non-spathulate acute petals I believe for the present it best to be regarded as a variety of that species. It is, indeed, a most curious plant with its strongly depressed, flat, long pseudobulbs adnate to the rhizome in their whole length.

Description from a living specimen cultivated in the Buitenzorg Gardens.

Bulbophyllum (sect. Hymenobractea) **ternatense** J. J. S. n.sp.

Rhizoma breve, radicans. *Pseudobulbi* approximati, parvi, oblique subdiscoïformes, c. 0.2—0.25 cm longi et diam., 1folii. *Folium* petiolatum, oblongum, obtusum, basi in petiolum contractum, supra in utraque sulci longitudinalis parte convexum, subtus fere planum, carnosum, minute furfuraceo-puncticulatum, c. 4—6 cm longum, 1.35—1.95 cm latum; petiolus tenuis, antice canaliculatus, puncticulatus, c. 1—2.1 cm longus. *Inflorescentiae* e basi pseudobulborum, foliis multo breviores, c. 2florae (an semper?), pedunculo sparse furfuraceo-puncticulato, c. 2.2—2.8 cm longo, nonnullis vaginulis tubulosis puncticulatis donato, rachide c. 1—1.1 cm longa. *Bracteae* oblique infundibuliformes, compressae, dorso patentes, carinatae, puncticulatae, ad c. 0.7 cm longae. *Flores* carnosae, c. 1 cm longae, sepalis dorso minute puncticulatis. *Sepalum dorsale* porrectum, ovatum, obtusum, vix apiculatum, basi lata medio tantum affixum, concavum, 5nervium, nervis exterioribus basi ramosis, costa media dorso prominula, c. 0.83 cm longum, 0.575 cm latum. *Sepala lateralìa* ad pedem gynostemii decurrentia, mentum incurvum cum ovario angulum acutum faciens late rotundatum dorso canaliculatum c. 0.65 cm longum formantia, a sepalo dorsali remote inserta, divergentia, oblique ovato-triangula, obtusa, minute apiculata, margine postico supra basin angulum obtusum facientia, obtusangule concava cum lateribus

leviter convexis, basi concava, 7nervia, costa media dorso carinata, c. 1 cm longa, 0.775 cm lata. *Petala* minora tenuioraque, oblique oblonga, obtusa, 3nervia, 0.57 cm longa, 0.3 cm lata. *Labellum* mobile, cum pede gynostemii angulum acutum faciens, carnosum, simplex, in c. $\frac{1}{3}$ supra basin subrectangule recurvum, subtus leviter longitudinaliter sulcatum, glabrum, 5nervium, c. 0.67 cm longum, parte inferiore canaliculatum cum incrassatione convexa longitudinali ante flexum sensim evanescente, subtus convexum, parte antica ovato-triangulum convexum marginibus recurvum, basi late canaliculatum subtus concavum, explanatum ellipticum, obtusum, basi truncatum, c. 0.85 cm longum, 0.45 cm latum. *Gynostemium* rectum, a dorso compressum, supra visum absque anthera subquadratum, dorso convexum, 0.35 cm longum, clinandrio excavato, subtriangulo, filamento longe filiformi, auriculis antherae brevioribus oblique quadrangulis retusis. *Anthera* cucullata, conica, apice producta late truncata minutissime crenulata, c. 0.18 cm lata. *Pollinia* 4, lateraliter compressa, semiobovata, interiora quam exteriora angustiora, fere 0.1 cm longa. *Stigma* magnum, concavum, quinquangulare. *Pes gynostemii* cum ovario angulum acutum faciens, supra basin incurvus, ceterum subrectus, apice a sepalis lateralibus libero incurvulus, linearis, truncatus, dorso longitudinaliter canaliculatus, 0.66 cm longus. *Ovarium* obconicum, 6sulcatum, dense furfuraceo-punctatum; pedicellus teres, parce punctatus, basi glaber.

TERNATE (H. J. LAM n.5, cult. in Hort.Bog.sub n.929 III.64; "leaves shining green above, dead green with numerous small white dots and short streaks beneath, sepals and petals pale greenish yellow, transparent, lip cream-coloured, the lower part orange in the centre").

Differing from the other species of the section in the short 2flowered inflorescences, the colour of the flowers, the broad, blunt, petals and broad lip.

This is the first member of the section recorded out of New Guinea.

Description from a specimen preserved in alcohol.

Bulbophyllum (sect. *Aphanobulbon*) **citricolor** J. J. S. nom.nov. — *B. citrellum* J. J. S. (non RIDL.) in Bull.Jard.Bot.Buit.3e sér.IX (1927) 173.

Bulbophyllum (sect. *Aphanobulbon*) **auroreum** J. J. S. in Bull. Jard. Bot. Buit. 3e sér. X (1928) 69.

var. **grandiflorum** J. J. S. n.var.

Rhizoma validum, repens, elongatum, teres, facie inferiore omnino radicans, sicco 0.45—0.5 cm diam., omnino vaginis tubulosis tectum, vagina ultima sub pseudobulbo maxima, pseudobulbum cum basi petioli includente, transverse rugosa, c. 3.5 cm longa. *Pseudobulbi* c. 4 cm dissiti, parvi. *Folium* petiolatum, oblongo-loriforme, obtusum, vix retusum, basi cuneata in petiolum contractum, sicco rigide coriaceum, c. 11—14 cm longum, 1.9—2.8 cm latum; petiolus canaliculatus, c. 3.5—4.5 cm longus. *Inflorescentiae* e basi pseudobulborum, erectae, multiflorae, pedunculo c. 13.5 cm longo, omnino vaginulis c. 7 longis sese partim amplexantibus tubulosis compressis carinatis plerumque acutis maximis 5 cm

superantibus tecto, rachide c. 11 cm longa. *Bracteae* linearis-subulatae, versus apicem sensim angustatae, leviter concavae, 1nerviae, c. 1—1.2 cm longae, basi 0.15 cm latae. *Flores* macerati c. 1.55 cm lati. *Sepalum dorsale* sublineare, apicē marginibus incurvis leviter acuminatum, 3nervium, fere 0.8 cm longum, 0.18 cm latum. *Sepala lateralialia* oblique triangulo-linearialia, versus apicem sensim angustata, apice subulata, margine antico basi leviter dilatata, 3nervia, c. 0.925 cm longa, basi fere 0.3 cm lata. *Petala* parva, oblique linearialia, vix falcata, obtusa, apice leviter incrassata, ut videtur haud vel vix papillosa, 1nervia, c. 0.275 cm longa, 0.075 cm lata. *Labellum* maceratum explanatumque trilobum, 3nervium, bene 0.4 cm longum, ad lobos laterales 0.225 cm latum, lobis lateralibus brevibus latis oblique rotundatis, lobo intermedio oblongo obtuso apice minute papilloso 0.23 cm longo 0.13 cm lato. *Gynostemium* brevissimum, absque anthera 0.15 cm longum, apice aequilalateraliter trapeziformi truncato minute apiculato, auriculis breviter subulatis. *Anthera* cucullata, tenuis. *Pes gynostemii* brevis, costula longitudinali infra apicem abrupte terminante instructus, gynostemio fere aequilongus. *Ovarium* pedicellatum c. 0.95 cm longum.

SUMATRA. East coast: Berastagi, 1500 m (Mrs. E. H. BURKILL n.16301, 2 November 1924; "flowers flesh-pink?").

In habit this plant agrees with the type specimen of *B. aureum* J.J.S. but the flowers are distinctly larger and show some differences. As they were, however, not in a very good state and especially the lip and column want to be studied from better material, I have provisionally described it as a variety.

Description from a single dried specimen.

Bulbophyllum (sect. *Aphanobulbon*) **igneocentrum** J.J.S. in Bull.Jard. Bot.Buit.2e sér.XXV (1917) 67.

var. **lativaginatum** J.J.S. n.var.

Pseudobulbi disciformes, c. 0.55 cm diam., 0.3 cm alti. *Folium* oblique lanceolatum, late acutum, basi sensim in petiolum acuminatum, margine recurvum, costa media supra sulcatum, subtus carinatum, tenuiuscule coriaceum, c. 18.5 cm longum, 4.8 cm latum; petiolus teres, superne canaliculatus, c. 13 cm longus. *Inflorescentiae* cum petiolo basi vaginis tubulosis communibus inclusae, dense multiflorae, pedunculo sectione transversa elliptico, c. 16 cm longo, vaginulis c. 3 magnis ample tubulosis valde a latere compressis antice et postice carinatis superioribus accrescentibus ad c. 5.5 cm longis tecto, rachide valde convexo-costata, c. 14 cm longa. *Bracteae* subovato-triangulae, sensim acuminatae, acutae, concavae, c. 0.225 cm longae. *Flores* parvi, patentissimi, c. 0.5—0.55 cm lati, 0.4 cm longi, sepalis basi parallelis, superne divergentibus. *Sepalum dorsale* horizontale, concavum, apice recurvum convexumque, oblongum, apiculatum, 3nervium, c. 0.4 cm longum, 0.125 cm latum. *Sepala lateralialia* cum pede gynostemii mentum subincurvulum cum ovario angulum subrectum faciens obtusum dorso longitudinaliter impressum fere 0.15 cm longum formantia, oblique oblongo-triangula, falcata, basi antice dilatata, acuta, subapiculata, basi rotundata, praesertim basi concava, costa media dorso prominula, 3nervia, c. 0.4 cm longa,

basi 0.24 cm, supra basin 0.14 cm lata. *Petala* porrecta, parallela, oblique rhombo-lanceolata, vix falcata, superne longe angustata, obtusa, convexa, $\frac{3}{5}$ partibus superioribus papillosa, 1nervia, c. 0.23 cm longa, 0.07 cm lata. *Labellum* mobile, ante medium valde recurvum, inferne lateribus erectis basi concavis antice convexis canaliculatum, superne carnosum, concavum, apice excepto canaliculatum, obtusum apice papillosum, basi bicallosum, inexplatum c. 0.225 cm longum, explanatum e basi dilatata oblongum, 3nervium, c. 0.3 cm longum, basi 0.15 cm, medio 0.1 cm latum. *Gynostemium* brevissimum c. 0.08 cm longum, clinandrio concavo, apice transverse quadrangulo subretuso cum filamento filiformi, auriculis porrectis, antheram subaequantibus, e basi lata incurvulo-subulatis, margine antico valde obtusangule dilatatis. *Anthera* cucullata, ovata, apice breviter producta, obtusa, vix 0.05 cm longa. *Pollinia* 2, corpusculum sub globosum a latere compressum formantia, extus convexa, intus plana. *Stigma* alte excavatum. *Pes gynostemii* cum ovario angulum subrectum faciens, apice breviter incurvus liberque, linearis, apice vix dilatato truncatus, basi callo conspicuo longitudinali a latere compresso apice breviter libero obtuso deorsum spectante instructus, c. 0.14 cm longus. *Ovarium* obconicum, apice obliquum, 6sulcatum, cum pedicello bene 0.25 cm longum.

SUMATRA. West coast: Solok, Loeboek Soelasih (W. GROENEVELDT, cult. in Hort. E. JACOBSON sub n. 259; "peduncle brownish rose-ochraceous, sheaths greenish redbrown to olive-brown, flowers rose-ochraceous, apical half of lip orange").

This differs from the type in the longer peduncle and the larger, much laterally compressed sheaths.

Description from material preserved in alcohol.

Sarcophilus teres RCHB. f. in WALP. ANN. VI (1861) 499; etc.

var. ***exinflatus*** J.J.S. n. var.

Differt a type sepalis petalisque latioribus, labelli lobis lateralibus paulo longioribus falcatisque, calcaris apice non inflato pallido.

SUMATRA. East coast: Deli (Exp. M. TREUB, 1894, JAHERI, cult. in Hort. Bog. sub n. 296d). West coast: Pariaman, Padang Pandjang, 800 m (R. SCHLECHTER n. 15968, 28 January 1907); Agam, Palembang (E. JACOBSON, cult. sub. n. 495), Craterwall of Manindjau lake, 600—800 m (W. GROENEVELDT, cult. in Hort. E. JACOBSON sub n. 533; W. M. DOCTERS VAN LEEUWEN, cult. in Hort. Bog. sub. n. 651).

The variety differs especially in the broader sepals, and the apex of the spur not being inflated and dark purple. In these respects it resembles *S. compressus* RCHB. f. In some of the specimens enumerated above the lip is more or less dotted, in others, e.g. that from Deli, not. It is also near *S. fraternus* J.J.S. from Java. SCHLECHTER cites his n. 15968 as *S. teres* RCHB. f.

All these forms should be studied on the spot.

Phalaenopsis fimbriata J.J.S. in Bull. Jard. Bot. Buit. 3e sér. III (1921) 300;

var. ***sumatrana*** J.J.S. n. var.

Sepalum dorsale anguste oblongum, apice obtuso recurvulum, convexum,

apice canaliculatum, c. 2.65 cm longum, 0.85 cm latum. *Sepala lateral*ia oblique oblonga ad ovato-oblonga, subfalcata, obtusa vel obtusiuscula, apiculata, marginibus recurvis valde convexa, costa media leviter canaliculata dorso carinata, 2.35—2.65 cm longa, bene 1 cm lata. *Petala* lanceolata, obtusa, marginibus recurvis valde convexa, 2.5 cm longa, 0.7 cm lata. *Labellum* 1.45 cm, explanatum 1.55 cm longum, 1.45 cm latum, lobis lateralibus margine antico infra apicem in lobulum parvum rotundatum dilatatis, lobo intermedio oblongo, superne paululum dilatato et valde undato, apice contracto acuto utrinque verruculoso, margine superne denticulato, carina alta antice breviter decurrente serrulataque in basi.

SUMATRA. Bengkoeloe: Rimbo Pengadang (Exp. E. JACOBSON, AJOEB n. 195, 19 June 1916; "flowers white, lip purple and yellow").

Differing from the type slightly in the shape of the sepals and petals, and especially in the midlobe being strongly bent in the upper part, serrulate on the margin, and provided with a shorter and higher keel.

There was only collected a single plant the inflorescence of which was preserved in alcohol. More material is very desirable.

Vanda Devoogtii J.J.S. n.sp.

Caulis erectus, cylindricus, c. 0.8 cm diam., dense bifarie foliatus, radicibus patentissimis, cylindricis, crassis. *Folia* patentia, valde recurva, loriformia, obtusangule canaliculata, apice oblique triangulo-biloba cum mucrone interposito lobo majori adnato, lobulis dentatis, dorso anguste carinata, firmiter coriacea, subopaca, dilute viridia, c. 29 cm longa, explanata 2.5—2.8 cm lata; vagina brevis, tubulosa, antice rumpens. *Inflorescentiae* axillares, foliis paulo breviores, arcuatae, laxae pauciflorae, pedunculo viridi, sordide violaceo-suffuso, c. 9 cm longo, nonnullis vaginulis parvis tubulosis donato, rachide quaquaverse flexuosa, angulata, colore pedunculi, c. 10 cm longa, internodiis c. 1.6—3.2 cm longis. *Bractee* adpressae, breves, late triangulae, rotundatae, c. 0.25 cm longae. *Flores* c. 6, patentissimi, mediocres, carnosii, c. 4.2 cm lati, horis antemeridianis leviter suaveolentes, sepalis petalis patentissimis, non reflexis, intus nitidulis margine dilute flavo excepto flavo-cinnamomeis basi purpureo-suffusis, dorso opacis flavescentibus. *Sepalum dorsale* marginibus inferne valde revolutis spathulatum, apice incurvulum, leviter laxae undulatum explanatum e basi breviter contracta late ovato-orbiculare, rotundatum, praesertim dimidio inferiore anguste longitudinaliter dilute flavo- et fuscescenti-striatum, c. 2.1 cm longum, 1.6 cm latum, ungue transverse quadrangulo, 0.7 cm lato. *Sepala lateral*ia divergentia, marginibus inferne valde revolutis oblique spathulata, convexa, intus nonnullis striis inconspicuis longitudinalibus dilute flavis notata, explanata e basi breviter cuneato-contracta oblique ovato-orbicularia, rotundata, c. 2.25 cm longa, bene 1.7 cm lata. *Petala* patentissima, oblique spathulata, apice incurva, praesertim ungue convexa, inferne longitudinaliter flavo-striata, explanata ex ungue cuneato-quadrangulo oblique ovato-rhombea, apice rotun-

data, c. 2.3 cm longa, 1.65 cm, basi 0.45 cm lata. *Labellum* totum c. 2 cm longum, calcaratum, 3lobum, disco inter lobos laterales incrassationibus 2 convexis sulco longitudinali separatis pubescentibus donato, albo, longitudinaliter purpureo-striato; lobi laterales sub gynostemio porrecti et paulo breviores, margine superiore divergentes, quinquangulares, angulo antico rectanguli, carnosii, albi; lobus intermedius porrectus, hastatus, medio fere marginibus valde revolutis contractus, apice leviter incurvulus, subselliformis, convexus, crasse carnosus, callo reverso alte bilobo ad basim inter lobulos basilares, inferne costis 3 longitudinalibus antice evanescentibus, basi albus, supra basin flavus, striis 4 longitudinalibus brevibus castaneis inter costas, inexplanatus c. 1.65 cm longus, 1.5 cm latus, lobulis basilaribus patentissimis, leviter reversis, oblique ovato-semiovalibus, rotundatis, convexis, subtus concavis, intus minute puberulis, flavis, dimidio anteriore cinnamomeis, lobulo apiculi majusculo, cum lobulis basilaribus angulos rotundato-obtusos formante, quadrângulo-orbiculari, apice rotundato vel vix retuso; calcar reversum, ovario parallelum, valde a latere compressum, oblongum, rotundatum, album, purpureo-suffusum, c. 0.65 cm longum. *Gynostemium* breve, basi maxime dilatatum, 3lobum, lobulis basilaribus rotundatum, album, c. 0.5 cm longum, bene 1.2 cm latum, clinandrio leviter concavo cum costula longitudinali. *Anthera* plano-cucullata, transverse ovalis, apice in rostrum conspicuum oblongum rotundatum incurvum producta, connectivo valde carinato-incrassato antice viso conico, alba, c. 0.3 cm lata, *Pollinia* 2, a dorso compressa, irregulariter oblique ovalia, dorso oblique fissa, flava, cum stipite lato leviter contracto apice conduplicato albo et glandula magna suborbiculari c. 0.4 cm longa. *Rostellum* brevissimum, rotundatum, breviter late bilobulum. *Stigma* alte excavatum, transverse anguste oblongum, margine inferiore leviter producto. *Ovarium* valde 6costatum, cum pedicello 6angulato flavescens, c. 6.75 cm longum.

SELEBES. Palele (J. G. H. DE VOOGT).

I am indebted to General DE VOOGT for a living specimen of this plant, which proved to be new to science.

In the colour of the flowers it resembles *V. helvola* BL. and *V. leucostele* SCHLTR. It differs from both in the much recurved leaves, the longer more-flowered inflorescences, the pandurate midlobe of the lip which is more or less curved upwards at the tip, the callus at its base, etc.

Description from fresh materials.

Trichoglottis rosea AMES in MERR. En. Phil. pl. I (1925), 440. — *T. rosea* J.J.S. in Bull.Jard.Bot.Buit. 3e sér.XI (1930), 26. — *T. flexuosa* ROLFE ex AMES Orch. I (1905), 107; II (1908), 257. — *Cleisostoma roseum* LNDL. in Bot.Reg. XXIV (1838), Misc.80; PAXT. Mag.Bot.VI (1839), 189; XII (1845), 165; RCHB. f. in WALP. Ann. VI (1861), 888. — *Pomatocalpa ?roseum* J.J.S. in Nat. Tijdschr. Ned.Ind.LXXXII (1912), 106.

Unfortunately I have (i.e.) overseen the fact that the plant had already been transferred to the right genus by OAKES AMES.

Pomatocalpa floresanum J.J.S. n.sp.

Caulis elongatus, teres, sicco 0.4 cm diam., internodiis c. 1.8—2.5 cm longis, supra inflorescentiam radicem singulam emittentibus. *Folia* breviter, oblongo-loriformia, apice subinaequaliter rotundato-biloba, costa media supra sulcata dorso carinata, coriacea, c. 7.5—9.5 cm longa, sicco 1.5—2.3 cm lata; vaginae tubulosae, vaginis breviores. *Inflorescentiae* vaginam dorso ad basin perforantes, patentes, adscendentes, folia longe superantes, apice pauciramosae, dense multiflorae, 30—36 cm longae, pedunculo tereti, 23—26 cm longo, vaginulis c. 5 brevissimis tubulosis obtusis donato, ramulis (cum racemo terminali) 2—4, ramulis patentissimis, plus minusve incurvis, c. 3—4.3 cm longis, pedunculo partiali compresso 0.8—1 cm longo, racemo terminali 4.3—8 cm longo, pedunculo 1—1.5 cm longo, rachide angulata. *Bractae* breves, reflexae, concavae, obtusae. *Flores* quaquaversi, patentissimi, mediocres, carnosii, macerati 1.1 cm longi. *Sepalum dorsale* incurvum, spathulato-obovatum, obtusum, minute apiculatum, basi breviuscule contractum, utrinque convexum, 5nervium, c. 0.83 cm longum, 0.46 cm, basi 0.275 cm latum. *Sepala lateral*ia incurvula, oblique spathulato-ovalia, obtusa, minute apiculata, basi breviuscule contracta, convexa, costa media dorso prominente, bene 0.7 cm longa, 0.4 cm, basi 0.225 cm lata. *Petala* oblique spathulata, convexa, subfalcata, satis conspicue unguiculata, lamina oblique quinquangulata truncata, tota 0.725 cm longa, 0.4 cm, basi fere 0.2 cm lata. *Labellum* basi gynostemio (pedi gynostemii) adnatum, cum ovario angulum rectum faciens, 3lobum, totum c. 0.56 cm longum; lobi laterales ad faucem calcaris erecti, oblique quadranguli, margine postico columnae adnati, margine antico incurvi et basi incrassatione transversa multo brevior canallicula longitudinali bilobula medio nasiformi-callosa connexi, concavi; lobus intermedius conspicuus, reflexus, convexus, transverse ovalis, apice breviter recurvo acutiuscule triangulo-acuminatus, inexpansus 0.24 cm longus, 0.36 cm latus; calcar a dorso compressum, ambitu quinquangulare, apice contractum obtusum sulco longitudinali breviter bilobulum, c. 0.3 cm longum latumque, intus lamella erecta lata fere in medio calcaris inserta apice retusa denticulataque instructum. *Gynostemium* breve, crassum, dorso conspicue excavato-recurvum, c. 0.3 cm longum, clinandrio concavo costula longitudinali antice in dentem acutum porrectum productum, pede antice viso triangulo. *Anthera* cucullata, subquadrata, angulis rotundata, apice in rostrum satis conspicuum late oblongum obtusum dorso convexum incurvum apice leviter recurvum abrupte producta, 0.17 cm lata. *Pollinia* 4, in corpuscula 2 subglobosa unita, postica quam antica minora, cum stipite lineari antice convexo et glandula magna oblonga c. 0.225 cm longa. *Rostellum* malleiforme, antice in lacinulas 2 subulatas porrectas productum. *Stigma* aequilaliter trapeziforme, basi dilatatum, apice rostello bilobulum. *Ovarium* alte 6sulcatum, c. 0.7 cm longum.

FLORES. In the western part, Mboera, bank of Wai Lapir, 35 m (DE JONG n. 15, 17 October 1929).

In the elongate stems and short leaves this resembles *P. truncatum* J.J.S.

and *P. simalurense* J.J.S. but differs from both in the spur being contracted and shortly bilobed at the apex and the nearly quadrate anther with a rather large beak, moreover from *P. simalurense* in the shorter side lobes, strongly recurved column, and from *P. truncatum* in the not angular sepals and petals, the insertion of the lamella and much shorter ovary.

The colour of the flowers has not been noted.

Description from herbarium.

Mr CHAS. SCHWEINFURTH very kindly drew my attention to the fact that in my paper on ENDERT'S *Orchidaceae* from Borneo a few names had been previously used. I propose the following emendations:

Microstylis subtiliscapa J.J.S. nom.nov. — *M. graciliscapa* J.J.S. (non SCHLTR.) in Bull. Jard. Bot. Buit. 3e sér. XI (1931), 119. — *Malaxis graciliscapa* A. et S. Orch. VI (1920), 73, pl.88, I.

Liparis tenella J.J.S. nom.nov. — *L. tenuis* J.J.S. (non ROLFE ex DOWNIE), l.c. 121.

Liparis kemulensis J.J.S. nom.nov. — *L. Amesiana* J.J.S. (non SCHLTR.), l.c. 124.

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